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A PROCESS FOR DETERMINING VOCATIONAL COMPETENCIES FOR THE PERFORMANCE OF NINE ESSENTIAL ACTIVITIES FOR SALES PERSONNEL IN THE FEED INDUSTRY, AND THE LOCI AT WHICH THE COMPETENCIES COULD BE TAUGH
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THIS WAS A STUDY TO DEMONSTRATE A PROCESS FOR DETERMINING THE VOCATIONAL COMPETENCIES ESSENTIAL FOR THE PERFORMANCE OF NINE FEED SALES ACTIVITIES AND THE LOCI AT WHICH THE COMPETENCIES COULD BE TAUGHT. AN INSTRUMENT WAS DEVELOPED WITH THE ASSISTANCE OF THE FEED INDUSTRY AND UNIVERSITY PERSONNEL. IT CONTAINED 40 COMPETENCIES WHICH APPEARED TO BE ESSENTIAL FOR FEED SALES PERFORMANCE. A 24-MEMBER JURY OF EXPERTS WERE INTERVIEWED AND THEIR RESPONSES TO THE IMPORTANCE OF THE 40 COMPETENCIES WERE TABULATED. ALSO, TABLES WERE PREPARED LISTING THE LOCI WHERE THESE COMPETENCIES COULD BE TAUGHT. A CHI-SQUARE ANALYSIS AND THE MCQUITTY HIERARCHIAL CLASSIFICATION SYSTEM WERE USED TO MEASURE THE EXTENT OF AGREEMENT AMONG THE 24 JURY MEMBERS. IT WAS CONCLUDED AFTER THE ANALYSES OF DATA THAT THERE IS GENERAL AGREEMENT ON BOTH THE 40 COMPETENCIES AND THE LOCI AT WHICH THE COMPETENCIES COULD BE TAUGHT. (GC)

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A PROCESS FOR DETERMINING VOCATIONAL COMPETENCIES FOR THE PERFORMANCE OF NINE ESSENTIAL ACTIVITIES FOR SALES PERSONNEL IN THE FEED INDUSTRY, AND THE LOCI AT WHICH THE COMPETENCIES COULD BE TAUGHT/

JAMES J. ALBRACHT, RESEARCHER

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FORWARD

This study was conducted in fulfillment of a contract between the U. S. Office of Education and the Michigan State University. The author is an instructor in the College of Education, Michigan State University. The author extends sincere appreciation to Professor O. Donald Meaders of the College of Education, Michigan State University who served as the director for the project.

The major emphasis of this project was on development of a process which involved four vocational education curriculum factors: the use of an industry function in identifying vocational competencies, and the loci at which the competencies could be taught; the use of a regional survey, and the use of a jury composed of experts from industry and education.

Forty vocational competencies were identified and submitted to a jury of twenty-four experts to determine if the competencies were needed for the performance of nine essential activities for the sales function in the feed industry, and the loci at which the competencies could be taught. The frequency of the responses of the jury members were tabulated, and the results were analyzed by the use of Chi-Square Contingency Tables, and the McQuitty Hierarchial Classification System.

TABLE OF CONTENTS

Chapter Page

I. INTRODUCTION 1

The Problem 1
Purpose of the Study 2
Objectives of the Study 3
Assumptions 3
Hypothesis 4
Scope and Limitations of the Study 4
Definition of Terms 5

II. REVIEW OF LITERATURE 10

Industry Function Approach 10
Identification of All Vocational Competencies and Loci 13
Regional Surveys 16
Combined Industry and Education Juries 18
Summary 19

III. METHOD AND PROCEDURE OF THE STUDY 24

Development of the Instrument 24
Selection of the Jury 28
Conducting the Interview 30
Analyses of Study 33
Testing Hypothesis 35

IV. PRESENTATION AND ANALYSIS OF THE DATA 36

The Frequency of Forty Competencies for the Performance of Nine Essential Activities 37
Competencies Necessary for the Performance of Nine Essential Sales Activities 37
Competencies Necessary for the Performance of Eight Essential Sales Activities 43
Competencies Necessary for the Performance of Seven Essential Sales Activities 45

Chapter Page

Competencies Necessary for the Performance of Six Essential Sales Activities 45
Competencies Necessary for the Performance of Three or Four Essential Sales Activities 48
Significant Chi-Square Responses for the Competencies 50
Determination of Loci 52
Competencies Which Could Be Taught at Eleven and Twelve "Possible" and "Appropriate" Loci 52
Competencies Which Could Be Taught at Nine and Ten "Possible" and "Appropriate" Loci 56
Competencies Which Could Be Taught at Six, Seven and Eight "Possible" and "Appropriate" Loci 59
Competencies Which Could Be Taught at Three and Four "Possible" and "Appropriate" Loci 61
Significant Chi-Square Responses for "Possible" and "Appropriate" Loci 63
The McQuitty Hierarchial Classification System 67
  Clusters of Response for Competencies and Activities and Competencies and Loci using the McQuitty Hierarchial Classification System 68
  Summary of the McQuitty Hierarchial Classification System Treatment of the data 73
Competencies Which are Emerging or Becoming Increasingly Important 81
Summary of the Responses 83
Summary of the Process Used in the Study 88

V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS . . . 92

Method and Procedure 92
Summary of Findings of the Study 94
Conclusions 96
Recommendations 96

BIBLIOGRAPHY 97

APPENDICES 105

LIST OF TABLES

Table Page

I. Importance of Forty Competencies for the Performance of Nine Essential Activities by Sales Personnel in the Feed Industry as Rated by a Jury of Twenty-Four Experts . . . 38

II. Twenty-One Competencies Which are Necessary for the Performance of Nine Essential Activities by Sales Personnel in the Feed Industry as Rated by a Jury of Twenty-Four Experts 41

III. Seven Competencies Which are Necessary for the Performance of Eight Essential Activities by Sales Personnel in the Feed Industry as Rated by a Jury of Twenty-Four Experts 44

IV. Six Competencies Which are Necessary for the Performance of Seven Essential Activities by Sales Personnel in the Feed Industry as Rated by a Jury of Twenty-Four Experts 46

V. Three Competencies Rated as Important for the Performance of Six Essential Activities by Sales Personnel in the Feed Industry as Rated by a Jury of Twenty-Four Experts 47

VI. Three Competencies Rated as Important for the Performance of Three or Four Essential Activities by Sales Personnel in the Feed Industry as Rated by a Jury of Twenty-Four Experts 49

VII. Ten Competencies and the Activities for Which Sub-Jury Responses were Significantly Different 51

VIII. Eleven and Twelve "Possible" and "Appropriate" Loci at Which Eighteen Competencies Could Be Taught for the Performance of Nine Essential Activities by Sales Personnel in the Feed Industry 53

Table Page

IX. Nine and Ten "Possible" and "Appropriate" Loci at Which Seven Competencies Could Be Taught for the Performance of Nine Essential Activities by Sales Personnel in the Feed Industry 57

X. Six, Seven, and Eight "Possible" and "Appropriate" Loci at Which Eight Competencies Could Be Taught for the Performance of Nine Essential Activities by Sales Personnel in the Feed Industry 60

XI. Three and Four "Possible" and "Appropriate" Loci at Which Seven Competencies Could Be Taught for the Performance of Nine Essential Activities by Sales Personnel in the Feed Industry 62

XII. Ten Competencies and the "Possible" and "Appropriate" Loci for Which Sub-Jury Responses were Significantly Different 64

XIII. Composition and Characteristics of the Twenty-Four Jury of Experts Responses to the Importance of Forty Competencies for the Performance of Nine Essential Activities by Sales Personnel in the Feed Industry 71

XIV. Jury Sub-Group and Characteristics of the Jury of Twenty-Four Experts Responses to the Importance of Six "Possible" Loci at Which Forty Competencies Could Be Taught for the Performance of Nine Activities by Sales Personnel in the Feed Industry 75

XV. Jury Sub-Group and Characteristics of the Jury of Twenty-Four Experts Responses to the Importance of Six "Appropriate" Loci at Which Forty Competencies Could Be Taught for the Performance of Nine Activities by Sales Personnel in the Feed Industry 78

XVI. Twenty-Three Competencies Which are Emerging or Becoming Increasingly Important for the Performance of the Sales Function of the Feed Industry as Indicated by a Jury of Twenty-Four Experts 82

LIST OF FIGURES

Figure Page

1. Clusters of the Responses to the Importance of Forty Competencies for the Performance of Nine Essential Activities by Sales Personnel in the Feed Industry as Rated by a Jury of Twenty-Four Experts Using the McQuitty Hierarchial Classification System of Individual "Members" and "Reciprocal Pairs" 70

2. Clusters of the Responses to the Importance of Six "Possible" Loci at Which Forty Competencies Could be Taught for the Performance of Nine Activities by Sales Personnel in the Feed Industry as Rated by a Jury of Twenty-Four Experts Using the McQuitty Hierarchial Classification of Individual "Members" and "Reciprocal pairs" 74

3. Clusters of the Responses to the Importance of Six "Appropriate" Loci at Which Forty Competencies Could be Taught for the Performance of Nine Activities by Sales Personnel in the Feed Industry as Rated by a Jury of Twenty-Four Experts Using the McQuitty Hierarchial Classification System of Individual "Members" and "Reciprocal Pairs" 77

LIST OF APPENDICES

Appendix Page

A Questionnaire 106

B List of Jury Members 111

C Table XVII--Importance of Forty Competencies for Performance of Nine Essential Activities by Sales Personnel in the Feed Industry as Rated by a Jury of Twenty-Four Experts . . . 114

D Table XVIII--Importance of Six "Possible" and "Appropriate" Loci Where Forty Competencies Could be Taught as Rated by a Jury of Twenty-Four Experts 119

E Table XIX--Classification into Sub-Groups by the Responses of Individual Members of the Jury of Twenty-Four Experts for the Importance of Forty Competencies for the Performance of Nine Essential Activities by Sales Personnel in the Feed Industry, and the "Possible" and "Appropriate" Loci at Which the Competencies Could be Taught 129

Table XX--Clusters of Responses by Sub-Group to the Importance of Forty Competencies for the Performance of Nine Essential Activities by Sales Personnel in the Feed Industry as Rated by a Jury of Twenty-Four Experts . . . 130

Table XXI--Clusters of Responses by Sub-Group to the Importance of Six "Possible" Loci at Which Forty Competencies Could be Taught for the Performance of Nine Activities by Sales Personnel in the Feed Industry as Rated by a Jury of Twenty-Four Experts 132

Appendix Page

Table XXII--Clusters of Responses by Sub-Group to the Importance of Six "Appropriate" Loci at Which Forty Competencies Could be Taught for the Performance of Nine Activities by Sales Personnel in the Feed Industry as Rated by a Jury of Twenty-Four Experts 134

F List of Twenty-Eight Activities for the Performance of the Sales Function 136

CHAPTER I

INTRODUCTION

The Problem

This research represents an attempt to determine a satisfactory process for developing educational programs to prepare workers for entrance and advancement in occupations. This study focuses principal emphasis on the "industry function" rather than the "job title" approach as the basis for developing the instructional program. The sales function of the feed industry was selected to try out this process for determining a vocational education curriculum.

The feed manufacturing industry in the United States has grown from a "handful of grain and by-product mixers" at the turn of the century to a dynamic industry that is presently producing between 44 and 50 million tons of feed annually. The estimated tonnage produced by the feed industry in the United States represents gross sales of more than $3.5 billion. Within easy reach of nearly every farm in the United States, you will find a representative of the feed industry, a feed mill, or a retail feed store. Each is one of more than 6,000 feed manufacturing plants and 25,000 dealers in this country who together employ over 200,000 persons, and make up the largest manufacturing industry exclusively serving agriculture. The turnover of personnel, the new jobs created by expansion of programs, and many other factors have created a large demand for educational programs to prepare new workers and to up-grade and up-date present employees in the feed industry.

Purpose of the Study

The main purpose of this study was to develop and try out a process for determining vocational competencies needed for the performance of the sales function of the feed industry, and for determining the loci at which the competencies could be taught. The process developed and used in this study incorporated the following factors:

(a) the use of an "industry function" approach rather than the traditional "job title" approach;

(b) the inclusion of all vocational education competencies involved in the performance of a function rather than only those competencies which might be taught by one of the vocational service areas;

(c) the use of a regional survey approach rather than the traditional local survey approach; and

(d) a team approach of industry leaders and vocational educators in determining which competencies are needed, and the loci at which the competencies could be taught.

Objectives of the Study

The overall objectives of this study were to determine the feasibility of using the combinations of four factors listed above as a process to determine vocational competencies needed for the performance of essential activities by sales personnel in the feed industry and the loci at which the competencies could be taught. In order to accomplish the overall objectives of this study, the sales function of the feed industry was studied:

1. to identify and verify the sales activities performed by personnel in the feed industry, and to rank the activities as to their relative importance to the feed industry.
2. to identify and verify the competencies necessary to the performance of the sales activities in the feed industry, and
3. to determine the loci at which the sales competencies could be taught.

Assumptions

This study was based on the basic assumption that if there were general agreement between the four sub-juries in determining the importance of forty competencies for the performance of nine essential sales activities, and the loci at which the competencies could be taught, then the process containing four factors could be used as a basis for determining the competencies and loci of instruction for an industry function. Other assumptions which were made in the study for demonstrating a process for determining the vocational competencies and loci of instruction were as follows:

1. the use of the sales function in the feed industry was an appropriate function and an appropriate industry to use to demonstrate this process.

2. the instrument developed for this study was a valid and reliable instrument for collecting information about the essential competencies and the loci for instruction.

3. the use of the chi-square analysis is an appropriate method for testing the differences which are significant between the four sub-juries, and the use of the McQuitty Hierarchial Classification System is an appropriate method for determining the agreement among the members of the jury.

Hypothesis

The hypothesis for the study was as follows: There is no difference in the opinions expressed by members of the sub-juries for the importance of forty competencies for the performance of nine essential sales activities, and the loci at which the competencies could be taught.

Scope and Limitations of the Study

General competencies in communications, human relations, and occupational adjustment, although important to employee success, were not included in this study.

The vocational competencies needed for the performance of nine essential activities for the sales function of the feed industry were included in this study. The other activities performed by personnel who also sell and the other vocational competencies needed were not included.

The conclusions and recommendations of the study were based on an analysis of the expressed perceptions of the jury consisting of twenty-four members.

Definition of Terms

Included in this section are the specific definitions of the terms as they were used in this study. (The terms as used apply to the feed industry, but many could be applicable to other industries.) References by Bloom (1),* the American Vocational Association (2), Smith (3), and Winston (4) were useful in defining the terms.

1. Activity - the particular act or set of acts related to the performance of a function of an industry.
2. Feed industry - industry that manufactures, sells, and distributes livestock feed.
3. Industry function - closely related activities which contribute to the achievement of a specific purpose of an industry.

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*The number in the parentheses denotes the number of the reference in the footnotes at the end of each chapter.

4. Industry function (feed sales) - closely related activities which contribute to the achievement of the sales phase of the feed industry.

5. Job-title - the name given to a classification of the tasks required of a worker to perform specific services.

6. Jury of Experts - Individuals recognized by others in their respective fields as being authorities on the performance of the sales function of the feed industry, and/or in conducting occupational research.

7. Locus - the educational facility where the sales personnel competencies could be taught, as indicated by time and place considerations.

8. Loci selections:
    a. Possible - the location(s) where the competency could be taught.
    b. Appropriate - the location(s) where the competencies could be effectively and efficiently taught (not used to refer to a hierarchy of values).

9. Loci definitions:
    a. High School - the secondary school with grades 9 - 12.
    b. Post High School - a formal terminal educational program of two years or less duration beyond the high school.
    c. Four Year College - the formal 4-year college program.

   d. Adult or Evening - a non-credit program available to the public through the public schools or cooperative extension service.
   e. Dealer or Company - non-credit program offered by the feed dealer or the feed company.
   f. On-the-job - during employment on the job, exclusive of cooperative on-the-job training programs.

10. On-the-job - Any training given to the feed sales personnel in the place of business exclusive of that given in cooperative occupational programs between the employer and an educational institution. The training may or may not be of an occupational entrace nature.
11. Sales personnel - Industry employees who perform one or more sales activities.
12. Sales personnel (feed) - Feed industry employees who perform one or more feed sales activities.
13. Training - Making proficient by instruction and practice.
14. Vocational competency - Knowledge, understanding, or abilities needed to perform essential activities in an industry.
15. Vocational competencies (feed sales) - Knowledge, understanding, or abilities needed to perform the essential sales activities in the feed industry.

16. Vocational competency levels: (1)
    - a. Knowledge - a familiarity with and recognition of certain information.
    - b. Understanding - the comprehension of certain knowledge.
    - c. Ability - skill in applying knowledge and understanding to actual situations.

Footnotes

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2. "Definition of Terms in Vocational and Practical Arts Education," American Vocational Association, Washington, D.C., 1954.

3. Edward Smith, Stanley Krause, Mark Atkinson, The Education Dictionary (New York: McGraw Hill, 1956).

4. Winston Dictionary, College Edition (New York: Winston Co., 1955).

CHAPTER II

REVIEW OF LITERATURE

The purpose of this chapter is to review and classify some of the vocational education research which has been conducted. Findings have been grouped as follows: industry function approach; identification of all vocational competencies and loci; regional survey; and combined industry and education juries.

Industry Function Approach

Most of the previous vocational education curriculum studies focus attention on "job titles." This study did not use "job titles," but used the "industry function" approach instead.

Related literature indicates that educational programs using the traditional "job title" approach may be inadequate, and that another focus, such as the "industry function" approach could have merit. Sutherland and Thompson (34) of the University of California found that similar businesses under different managers make assignments to personnel that vary considerably in requirements even though the primary job descriptions are identical. In an industrial technician study by Brandon (7) it was found that many industries do not have job descriptions for technicians, and for those that did, technician activities were numerous and diverse.

Shartle (31) has indicated that "job titles" are often out-of-date, they are often ignored by the supervisor, and unions often object to the performance of work that is not given in the "job title" description. In a study by Gardner (18) it was found that job titles were usually not available for off-farm agricultural occupations. Clark (12) found that job classifications and duties vary considerably. Cushman, Christensen, and Bice (14) found that the amount of time devoted to the use of agricultural competencies varied widely within the various "job titles." Kennedy (24) reported that in certain non-farm agricultural businesses the same abilities and understandings were needed by the workers as were needed by the farmers. He found a high degree of similarity of needs for some workers, and practically no similarity of needs for other workers.

In research conducted by Super (33) of the Syracuse University it was found that in the case studies of some young workers in their teens and early twenties, they moved from occupation to occupation , but usually remained employed within a family of occupations. For example, the worker with clerical interests might have served in several of the occupations within the family of clerical occupations. The worker who was interested in mechanical occupations moved from occupation to occupation within the family of mechanical occupations. This appears to indicate that there are interest and aptitude considerations to consider in suggesting the vocational training desirable for individual students. The Strong Vocational Interest Blank, the Kuder Preference Test, the Bernrenter Personality Inventory, the Humm-Wadsworth Temperament Test, and the Man Test for ability to sell have validity as predictive instruments (34). Mobley and Barlow (25) have indicated that because of the mobility in our society, it may be desirable to prepare individuals for occupations in which they are interested, and for which they have the talent to succeed, rather than limiting the individual to training for occupations which are only available locally.

Byram (10) has suggested educational programs involving a career or family of closely related agricultural occupations rather than training for one specific occupation. Stadt (32) of the University of Alberta, Edmonton, suggests that vocational education training should be broad enough to provide for horizontal and vertical occupational movement. Fawcett (17) reports that goal changes and re-assignment of individuals within the organization occurs, and that work assignments are often unique in terms of the good of the organization. Woodring (38) suggested that vocational programs should have a broader based emphasis on pre-employment education rather than having a narrow preparation for specific jobs. Brandon and Evans (8) have suggested a broad field approach to vocational preparation. Swanson and Kramer (36) suggest broader based pre-employment programs, and highly specialized and narrow based curricula for those who have entered the labor market.

A study by Face, Flug, and Swanson (5) indicated that an orientation of course work for a broad focus on an essential concept or function such as purchasing, shearing and extruding, appears to be superior to the narrow focus on the pre-selected skills approach for specific industries. Gardner (18) found that experts who occupied high echelon positions within the dairy industry were willing to identify specific competencies that were needed by workers to perform the functions of selling, installing, and maintaining milking systems or bulk tanks. Clark and Householder (13) report that a study by the Agricultural Education Staff of the Michigan State University indicated that the analysis of an industry by functions, and by activities necessary for the performance of the functions served as a satisfactory basis for organizing training programs.

Identification of all Vocational Competencies and Loci

In the past, vocational education research usually included only training programs involving one vocational education service area. This study included all the vocational competencies involved in the performance of the sales function of the feed industry, and all of the loci at which the competencies could be taught.

Related research has indicated the need for training programs that cut across the traditional vocational areas. Research conducted by Clark (11) indicated that wide areas of competencies are needed by workers in off-farm agricultural occupations. An interrelated training program between vocational agriculture, business education, trade and industry, and distributive education is suggested. Clark indicated that training is needed at all educational loci.

Taylor (27) in research at the National Center for Vocational and technical Education reports that duties of workers call for competencies which will require an "educational mix." Stevens (27) while doing research at the National Center for Vocational and Technical Education also speaks of an "educational mix" of training requirements for preparing workers for non-farm agricultural occupations. "Educational mix" refers to combinations of agriculture, business, and trade and industry competencies. Taylor (27) also reports that the greatest number of non-farm agricultural employees were needed in the marketing and distribution of agricultural supplies needed in farming.

In reviewing the programs in operation it appears that a combination of agriculture, business, and trade and industry competencies are desirable. The Michigan State

University Short Course Program (26) has been training workers for agricultural related businesses since 1946. Their program included agriculture, business, basic science, and general education courses. Coster (27) of the University of Nebraska reported that a cooperative agriculture and trade and industry program is in operation at the post high school level to train technicians in agriculture, machinery-mechanics, agricultural drafting, surveying, and soil science.

Hoover and Weyant (22) of Pennsylvania State University, reported a successful agriculture-business pilot project to train workers for the agricultural farm services, and in marketing and distribution of farm products. The training was given to high school seniors on an agricultural area basis. In a recent study by Hamilton and Bundy (20) it was reported that 41 competencies were needed by employees and managers in the retail feed businesses, with 25 competencies in crop or livestock production and farm management, and the other 16 competencies dealing with phases of business and dealership management.

Thompson (28) of the University of California found in his study of the training needs of students going into off-farm agricultural business about equal emphasis should be placed on agriculture and business education. In a study of business related to agriculture, Griffin (19) at the University of Missouri found that there were implications for interrelated training programs between vocational agricultural and other vocational services. Cushman, Christian, and Bice (14) of the Cornell University found that when agricultural competencies were weighted by annual employment opportunities it appeared that training programs emphasized competencies in agricultural business and agricultural mechanics were most needed by workers in all occupational families.

Regional Surveys

"Local surveys" have been the most common approach in planning vocational education programs. This study made use of the "regional survey" approach to curriculum planning.

A review of literature has indicated the desirability of regional surveys in vocational education. Jacoby (23) of the Pennsylvania Department of Public Instruction suggests that surveys are indispensable in vocational education program planning, but that the survey could be of a regional nature. Evans (16) of the University of Illinois comments that the local survey is no longer of value because of the great increase in mobility of industry and labor, and he suggests surveys of a regional or national nature.

Swanson and Kramer (36) suggest that regional planning is often desirable for vocational education in order to maintain large enough enrollment, and to provide a choice in the vocational training that is offered. They indicate that 24 states are now offering post high school area vocational education programs. Hamilton and Bundy (20) indicated that programs to train workers in the retail feed business should be offered on an area basis.

Haskew and Tumlin (21) state that although the schools are community oriented in terms of training workers for jobs in the local community, the school also serves a region since the school serves many pupils who are on the move, and are part of the national manpower force.

Referring to vocational education at the post high school level, Seay (30) of the Michigan State University states that local, state, regional, and national interests in education must be made compatible in one institution. He cites programs in the community college in Battle Creek, Michigan where technicians are trained for the nation's space programs, and technicians are also trained for the local cereal industry. A private foundation located in Battle Creek also helps support a program in another community college where technicians are trained for the State Conservation Department.

Mobley and Barlow (25) have noted the increase in the number of area vocational schools. They recognized that part of this increase has been due to the fact that small high schools have been unable to offer multiple course offerings in vocational education.

Combined Industry and Education Juries

An industry jury usually determines the competencies that are needed, and an education jury determines the loci at which the competencies could be taught. This research utilized a combined industry and education jury for determining both the competencies needed, and the loci at which the competencies could be taught.

The review of literature appears to suggest the use of joint industry and education juries for determining vocational competencies, and the loci at which the competencies could be taught. Evans (16) states that vocational education program content should be based on those activities which are of concern to the people who are working in or who are studying the industry involved. Sand (29) indicated that the responsibility of vocational preparation should be jointly shared by industry and education leaders. Bruner (9) suggests that training programs should be determined by those actively engaged in and studying the area involved.

Swanson and Kramer (36) indicate that a continuing contact with business, industry, and agriculture is necessary to prevent the obsolescence of the instruction. Barlow (6) states that information on "families" and "clusters" of occupations must be based on information provided by industry and business. He also indicated a need for a more extensive pattern of co-operative relationships with "outside" agencies. Walsh and Selden (37) call for cooperative committees from education, and from the business and industry community.

Engelking (15) of Canton, Illinois reports on a unique industry and education advisory group which has successfully served a post high school farm mechanics course. The make-up of the group includes the following: farm implement mechanic; farm implement salesman; owner of farm implement business; agricultural engineer associated with a major farm implement company; a member of the Canton Board of Education, and a dealer development manager of a major farm implement company.

Summary

The review of the literature appeared to indicate that the "job title" approach to curriculum planning might be inadequate, because of the number of problems involved with the use of job titles. Furthermore, the review of literature appeared to indicate that the "industry function" approach had merit, since it avoided the narrow focus on preselected skills for specific jobs, and instead, focused emphasis on the broader functions of an industry.

Results of recent vocational education research has indicated that many jobs involve vocational competencies which cut across the traditional vocational education service areas. The review of the literature appeared to suggest research which would include all of the vocational competencies needed for the performance of an industry function, and all loci at which the competencies could be taught.

Findings from the review of literature indicate that increasing technology, population shifts, and the increasing mobility of industry and labor have caused an increase in the need for the "regional survey." The review of the literature appears to indicate an increasing number of vocational education programs that were established on a regional basis.

Results of the review of the literature also appeared to indicate that the combined industry and education juries were effective, and appeared to be increasingly important.

Footnotes

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15. Harold Engelken, "The Birth of a Program," The Agricultural Education Magazine, 38:9 (March, 1966), pp. 198-199.

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CHAPTER III

METHOD AND PROCEDURE OF THE STUDY

The purpose of this chapter is to describe the method and procedure that was used in conducting the study. The topics included are as follows: the development of the instrument; the selection of the jury; conducting the interview; the analyses of the data; and the testing of the hypothesis.

Development of the Instrument

In previous research by Clark (11), nine functions in the feed industry were identified. The functions were sales, service, processing, transportation, office service, research, public relations, purchasing, and maintenance. A list of 28 activities (See Appendix F) by personnel for the performance of the sales function in the feed industry was submitted to a jury of twelve members who were recognized as expert for the performance of the sales function in the feed industry. The jury indicated whether or not the activities were performed in the sales function. For those that were performed, the jury ranked the relative importance of each activity to the industry through the use of a five-point rating scale with values as follows: 0 - not needed; 1 - little importance; 2 - some importance; 3 - very important; and 4 - essential. Nine activities which had a mean of 3.5 or more were used in this study. The activities were as follows:

1. Assists farmers in planning feeding programs and trouble shoots his feeding problems
2. Assists local dealers in promoting the use of specific feeds by local producers
3. Sells direct to producer
4. Assists producer to see through his own problems by reviewing with him his own situation
5. Follows up results obtained by customers and reports them to management
6. Sells directly to customer across the counter in an informative manner without risrepresentation
7. Solicits local dealers to sell company's products
8. Recognizes abnormal and detrimental practices and animal health conditions
9. Assists local dealers in promotional campaigns, and feed and grain clinics for livestock feeders

The major steps in the development of the instrument used for the study were:

1. The preparation of the list of competencies.
2. Consultations with representatives of the university, and the feed industry to refine the list of competencies.

3. Personal interviews of the trial juries to further refine the list of competencies.

An interview instrument for the study was developed by listing the competencies that might be required for the performance of activity one, then adding any additional competencies that might be involved for the performance of activity two, and again adding any additional competencies that might be involved for the performance of activity three. This process was repeated until all of the competencies were listed that might be involved in the performance of the nine most important activities in performing the sales function of the feed industry.

Additional competencies were identified through a review of agricultural and business education text books, and consultation with representatives of the Agricultural Education, and Michigan State University Short Course department. Representatives of the feed industry directly involved in selling feed to producers were consulted, and they were encouraged to add or delete any competencies that they felt were or were not essential for the performance of the sales function of the feed industry. Each of the personnel consulted were also asked to identify competencies or activities which they believed were emerging or becoming increasingly important.

An interview instrument composed of 62 competencies was developed. This instrument was then trial tested by six individuals directly involved in selling feed to producers, and by individuals who were responsible for training personnel to sell feed to producers. It was found that the instrument was too long causing respondent fatigue.

"Possible," "appropriate," and "best possible" loci determinations were included in the trial questionnaire. Several respondents said that the "best possible" loci determination was either "too difficult," or "not possible" to make, so the "best possible" location was arbitrarily dropped from the questionnaire. In addition, it was discovered that several competencies could be omitted from the questionnaire because of a lack of support by the trial jury. Further observation also indicated that several competencies were very similar. After omitting some competencies, and consolidating several others, the instrument size was reduced to 44 competencies.

Another trial jury of six people similarly expert in the sales function of the feed industry responded by yes or no answers as to the importance of 44 competencies for the performance of nine essential activities by sales personnel in the feed industry, and the "possible" and "appropriate" loci at which the competencies could be taught. The trial jury had no difficulty in completing this instrument without it being "too difficult" or "too long." The average time to complete the revised instrument was about 1-1/4 hours.

An analysis of the results revealed that the responses of the trial juries were such that eight competencies could be consolidated into four. Thus, the final instrument that was submitted to the pre-test jury contained 40 competencies.

The pre-test jury then responded to the importance of the 40 competencies for the performance of the sales function of the feed industry, and the loci at which the competencies could be taught. The pre-test jury of twelve persons with backgrounds and positions comparable to the jury of experts used in the study had no difficulty in making the determinations for the study. As a result of the experience with the pre-test jury, no further changes in the instrument were made.

Selection of the Jury

Jury members were selected from the Vocational Agriculture North Central Region composed of the following states: Michigan, Kentucky, Ohio, Indiana, Missouri, Kansas, South Dakota, North Dakota, Nebraska, Iowa, Minnesota, and Wisconsin.

Six members were chosen from each of four sub-jury areas. The criteria for the selection of the jury of experts for each of the four sub-juries were as follows:

1. Sales training directors from the upper echelon of the feed industry who had experience in the training or the supervision of the training of sales personnel who sell feeds.

2. Feed dealers who sold feed directly to the producer, and who train sales personnel for selling feed directly to the producer.
3. Agricultural teacher educators who had experience in conducting or supervising research in determining the training needs of personnel in agricultural occupations.
4. Office education and distributive education teacher educators who had experience in conducting or supervising research in determining the training needs of personnel in business occupations.

The sales training directors were selected from the largest feed manufacturing companies in the North Central Region. The largest feed companies were identified by knowledgeable feed industry representatives, and confirmed by reference to Moddy's Industrials (39), Standard and Poors (40), and Dunn and Bradstreet (41) publications. It was found that seven of the 10 largest feed companies were located in the North Central Region with four of the company headquarters located in the Chicago, Illinois vicinity. Five of the six sales training directors agreed to serve on the jury of experts. The other sales training director recommended a district sales training director who had the responsibility for training feed dealers, sales personnel, and district sales representatives as needed.

The sales training director of each company then recommended and ranked 2 or 3 feed dealers who were expert in selling feed to livestock producers, and who were also responsible for training sales personnel for his business. All of the first-ranked dealers who were contacted were very cooperative, and participated as a member of the jury of experts.

One company did not have dealers who sold from a traditional dealer business establishment, but sold directly to the producers on the farm. In effect, this company used the "direct" sales approach in selling livestock feed to producers. This company's representatives in turn set up subdealers to also sell feed directly to producers.

Conducting the Interviews

The interview schedules were arranged by telephone, and the purposes of the study thoroughly explained at that time.

Most of the interviews were conducted during business hours in the place of business. Every effort was made to establish good rapport (42) with the interviewee.

At the beginning of the interview, the author explained the nine feed sales activities that were needed to perform the sales function of the feed industry. The activities were "highlighted" by marking pencils for easier reading and reference. Both the interviewee and the interviewer had before them a list containing the feed sales activities, definitions, and the interview questionnaire forms.

Definitions were given pertaining to the activities, and the competencies for the performance of the activities. Definitions were also given for the knowledge, understanding, and ability levels for the competencies. Next, the factors to consider in determining the loci where the competencies could be taught were reviewed, followed by a definition of each of the six loci, and also definitions for the "possible" and "appropriate" selections for each of the loci.

Each jury member selected the loci which, in his opinion, would be "possible" and "appropriate" choices at which the competencies could be taught. Each competency was considered independently of other competencies. Each locus was selected on the basis of how the competency related to the performance of specific activities. For determining the locus at which each competency could be taught, the jury members were instructed to consider such factors as:

1. the experience of the trainee prior to the teaching of the competency
2. the maturity of the trainee prior to the teaching of the competency
3. the knowledge of the trainee prior to the teaching of the competency
4. special facilities, equipment and materials needed for the teaching of the competency

5. the number of personnel who have the opportunity to use the competency
6. the vocational commitment of the trainee to perform the competency as a sales person in the feed industry
7. the legal requirements for employment have been met by the trainee.

Following this, the interviewee was told that he was to indicate whether or not the competencies which were listed were necessary (yes or no) for the performance of the nine feed sales activities; and second, to indicate where the competencies could be taught. The interviewer recorded the responses on the questionnaire, and the interviewees were free to make their determinations orally. Examples were provided (see Appendix A) to familiarize the respondent with the instrument.

It was stressed that this should be considered an open-end questionnaire, and that additional activities and competencies might be necessary for the performance of the sales function of the feed industry. Near the close of the interview the jury members were asked if they could think of any additional competencies or activities that would be needed to perform the sales function in the feed industry. The interviewee then indicated at which loci the suggested competencies could be taught. It was also suggested that the respondent identify any additional competencies or activities that were emerging or becoming increasingly important.

Analyses of Data

The forty competencies were ranked according to their importance (yes or no) for the performance of nine essential activities by sales personnel in the feed industry as indicated by the responses of the jury members. Tables were prepared listing the frequency of the competencies in percentages for the performance of the nine essential activities by sales personnel in the feed industry. Also, tables were prepared listing the frequency of the competencies in percentages for each of the "possible" and "appropriate" loci at which the competencies could be taught as indicated by the responses of the jury of experts. The frequency of the competencies which are emerging or becoming increasingly important for the performance of the sales function of the feed industry as indicated by the responses of the jury members were listed.

The chi-square analysis of data was used for determining the statistical significance of the responses of the sub-jury members for the competencies which were considered essential for the performance of each of the nine sales activities, and for determining the significance of the responses for the loci at which the competencies could be taught. The purpose of the chi-square analysis was to determine if the distributions of the responses of the four sub-juries were significantly different. The .05 level of significance was used for this study, where the observations were significantly different than might be normally expected to occur by chance in five cases out of 100. More information on the chi-square test of significance may be obtained in references by Dixon and Massey (43), Edwards (44), and Hays (45).

The McQuitty Hierarchial Classification System (46)* was used to cluster the responses of the jury of experts to the importance of forty competencies for the performance of nine essential activities by sales personnel in the feed industry, and to cluster the responses to the "possible" and "appropriate" loci at which the competencies could be taught. The Hierarchial Classification System by "reciprocal pairs" as used in this study is a form of Typal Analysis; where "every member" of a cluster is more like every other "member" of a cluster than it is like any "member" of any other cluster. "Member" is used in the first level of classification to refer to the items; but in the second level it refers either to a reciprocal pair of items, or an item with a reciprocal pair, or an item with another item, or an item with a reciprocal pair, and in later levels it refers to the combination of reciprocal pairs of items, and other combinations of members as indicated for levels one and two. The classification proceeds by selecting the reciprocal pairs from every matrix at every level of classification until the classification is completed.

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*The actual classification was performed by the 3600 Computer at Michigan State. A program called "Program Hiclass" is available through the Computer institute for Social Science Research, Michigan State University.

Testing the Hypothesis

The hypothesis of this study was tested by the use of the chi-square analysis, a statistical test to determine whether or not the sub-juries were different in their responses, and the McQuitty Hierarchial Classification System, a statistical test to measure the extent of agreement among the twenty-four jury members.

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CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

The purpose of this chapter was to present the data, and to analyze the results by testing the extent of agreement of the four sub-juries in determining the vocational competencies needed by sales personnel in the feed industry, and the loci at which the competencies could be taught. The process used involved four factors for determining vocational competencies as follows: use of an industry function approach rather than the "job title" approach; identification of all vocational competencies and loci rather than competencies and loci which are serviced by one vocational education area; use of a "regional survey" approach in place of the "local survey"; use of a combined industry and education jury in place of an industry committee to determine competencies, and an education committee to determine the loci.

Competencies which were rated as important by fifty percent or more of the jury of twenty-four experts for the performance of nine essential sales activities were presented in percentages. The competencies which were not rated as important by fifty percent or more of the jury members were considered not essential to the performance of the designated activities.

The Frequency of Forty Competencies for the Performance of Nine Essential Activities

Table I indicates that competency number 25, "Thoroughly understands his company's feed products" was identified as the most important competency for the performance of nine essential activities by sales personnel in the feed industry. This competency had a total competency frequency of 201 out of a possible 216.* Competency number 38, "Understands the criteria for appraising prospective feed dealers" was the least important competency for the performance of the nine essential activities by sales personnel in the feed industry. This competency had a competency frequency of 89. This indicated that competency number 25 was considered essential for all nine sales activities, and that competency number 38 was considered essential for the performance of a limited number of sales activities.

Competencies Necessary for the Performance of Nine Essential Sales Activities

Twenty-one of the forty competencies were considered by fifty percent or more of the jury members as essential for the performance of all nine of the sales activities. Table II indicates that competency 25, "Thoroughly understands his company's feed products" with a competency frequency of 201,

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*A competency frequency of 216 could be obtained by having each of the twenty-four jurors indicate that the competency was essential for each of the nine sales activities.

TABLE I

IMPORTANCE OF FORTY COMPETENCIES FOR THE PERFORMANCE OF NINE ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY AS RATED BY A JURY OF TWENTY-FOUR EXPERTS

	COMPETENCY	Competency Frequency
25.	Thoroughly understands his company's feed products	201
29.	Understands the importance of personal sales traits and a pleasing personality	185
30.	Ability to greet customers and study their needs	185
5.	Understands feeding practices and programs used in the community	184
31.	Ability to classify and cope with different types of customers	182
32.	Ability to use suggestive selling and to close the sale	179
36.	Understands the research findings of livestock (poultry) feeding trials	178
4.	Ability to determine rations for specific livestock (poultry) uses	177
2.	Understands the composition of farm grains, roughages, and supplements	174
26.	Understands other products sold by his business (company)	171
3.	Understands the various methods of preparing livestock (poultry) feeds, i.e., grinding, pelleting, etc.	168
15.	Understands the control of livestock (poultry) pests and parasites	165
20.	Ability to determine the approximate amount of profit that is likely	165

TABLE I--Continued

	COMPETENCY	Competency Frequency
24.	Understands the policies of his business (company)	164
9.	Ability to determine the livestock (poultry) performance records to keep	162
14.	Ability to identify common livestock (poultry) diseases	159
27.	Knowledge of the feed products of competitors	158
33.	Knowledge of feed mill operation	156
17.	Ability to evaluate farmer's roughages, pasture, and grain resources	152
22.	Ability to determine the repayment ability of the customer	152
1.	Knowledge of the physical make-up and digestive process of farm animals (birds)	150
35.	Ability to write up and interpret the feeding results of his customers and convey them to management	149
13.	Understands the place of sanitation in the livestock (poultry) operation	148
21.	Ability to determine with the customer the amount of credit needed	148
40.	Understands the promotional techniques for increasing feed sales	148
37.	Ability to express feeding and nutrition information to groups	147
7.	Understands the factors to consider in selecting specific animals (birds)	145
18.	Knowledge of livestock prices and price trends	145

TABLE I--Continued

COMPETENCY		Competency Frequency
34.	Knowledge of transportation and delivery procedures	145
12.	Understands the influence of equipment upon growth and the rate of gain	144
11.	Understands the influence of housing upon the growth and rate of gain	144
28.	Ability to fill out company invoices and sales contracts	136
6.	Knowledge of the agricultural practices used in the community	130
10.	Understands the influence of heredity on the rate of gain	126
16.	Ability to fit animals for show or sale	123
39.	Understands the problems of feed dealers in the community	122
19.	Knowledge of marketing channels for livestock (poultry) and their products	118
8.	Ability to determine the grade of the animals (birds)	109
23.	Knowledge of the methods used in collecting bills	107
38.	Understands the criteria for appraising prospective feed dealers	89

TABLE II

TWENTY-ONE COMPETENCIES WHICH ARE NECESSARY FOR THE PERFORMANCE OF NINE ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY AS RATED BY A JURY OF TWENTY-FOUR EXPERTS*

Competency Frequency	COMPETENCY	ACTIVITIES								
		Assists producer	Assists dealers	Sells direct	Assists producer	Reports Results	Sells over counter	Solicits dealers	Recognizes abnormal procedures	Assists dealers
		1	2	3	4	5	6	7	8	9
		%	%	%	%	%	%	%	%	%
201	25. Thoroughly understands his company's feed products	100.0	95.8	100.0	91.7	95.8	95.8	87.5	79.1	91.7
185	29. Understands the importance of personal sales traits and pleasing personality	91.7	91.7	100.0	83.3	75.0**	95.8	83.3	66.7	83.3
185	30. Ability to greet customers and study their needs	91.7	83.3	100.0	83.3	75.0	95.8	83.3	70.8	87.5
184	5. Understands feeding practices and programs used in the community	91.7	83.3	95.8	87.5	57.0	87.5	79.1	83.3	83.3
182	31. Ability to classify and cope with different types of customers	91.7	83.3	95.8	83.3	75.0	91.7	87.5	66.7	83.3
179	32. Ability to use suggestive selling and to close the sale	87.5	79.1	100.0	83.3	62.5**	95.8	87.5	66.7	83.3
178	36. Understands the research findings of livestock (poultry) feeding trials	95.8	79.1	91.7	87.5	79.1	79.1	70.8	79.1	79.1
177	4. Ability to determine rations for specific livestock (poultry) uses	100.0	75.0	91.7	91.7	70.8	83.3	58.3	91.7	75.0
174	2. Understands the composition of farm grains, roughages, and supplements	100.0	79.1**	83.3	83.3	79.1	79.1**	62.5	79.1	79.1
171	26. Understands other products sold by his business (company)	79.1	75.0	87.5	75.0	70.8	91.7	83.3	66.7	83.3

*Rated as necessary by fifty percent or more of the jury experts.

**X^2 score significant at the .05 level.

TABLE II--Continued

Competency Frequency	COMPETENCY	ACTIVITIES								
		Assists producer	Assists dealers	Sells direct	Assists producer	Reports results	Sells over counter	Solicits dealers	Recognizes abnormal procedures	Assists dealers
		1	2	3	4	5	6	7	8	9
		%	%	%	%	%	%	%	%	%
168	3. Understands the various methods of preparing livestock (poultry) feeds, i.e. grinding, pelleting, etc.	83.3	79.1	79.1	83.3	70.8	83.3	62.5	75.0	83.3
165	15. Understands the control of livestock (poultry) pests and parasites	87.5	70.8	91.7	83.3	70.8	75.0	54.1	95.8	58.3
165	20. Ability to determine the approximate amount of profit that is likely	91.7	70.8	87.5	91.7	83.3	75.0	62.5	54.1	70.8
164	24. Understands the policies of his business (company)	75.0	75.0	87.5	66.7	83.3	87.5	79.1	50.0	79.1
159	14. Ability to identify common livestock (poultry) diseases	87.5	66.7	87.5	75.0	66.7	75.0	54.1	91.7	58.3
158	27. Knowledge of the feed products of competitors	79.1	79.1	83.3	70.8	58.3	79.1	79.1	62.5	66.7
156	33. Knowledge of feed mill operation	79.1	83.3	87.5	70.8	59.1	79.1	75.0	50.0	70.8
152	22. Ability to determine the repayment ability of the customer	87.5**	66.7**	75.0**	91.7	87.5	66.7	50.0	50.0	58.3
149	35. Ability to write up and interpret the feeding results of his customers and convey them to management	66.7	83.3	70.8	70.8	100.0	50.0	62.5	54.1	62.5
147	37. Ability to express feeding and nutrition information to groups	79.1	83.3	66.7	70.8	54.1	50.0	62.5	58.3	87.5
145	18. Knowledge of livestock prices and price trends	79.1	66.7	75.0	79.1	58.3	70.8	54.1	50.0	70.8

**X^2 score significant at the .05 level.

was considered essential by most of the jury members for the performance of the nine essential activities by sales personnel in the feed industry. Competency 18, "Knowledge of livestock prices and price trends" with a competency frequenty of 145 was considered essential by fewer of the jury members but was considered essential for the performance of all nine sales activities. The chi-square scores were significant for the responses to seven out of 189 ratings of the twenty-one competencies indicating very little disagreement between the four sub-juries.

Competencies Necessary for the Performance of Eight Essential Sales Activities

Of the seven competencies which were considered essential for the performance of eight activities by sales personnel in the feed industry, Table III indicates that competency 9, "Ability to determine the livestock performance records to keep" with a competency frequency of 162 was considered essential by most of the jury members, and competency 6, "Knowledge of the agricultural practices used in the community" was considered essential by fewer jury members. Competency frequencies for the competencies in this group ranged from a high of 162 for competency 9, to a low of 130 for competency 6. The chi-square scores were significant for two of the competencies for four out of a possible 63 combinations with the nine activities, indicating very little disagreement between the four sub-juries.

TABLE III

SEVEN COMPETENCIES WHICH ARE NECESSARY FOR THE PERFORMANCE OF EIGHT ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY AS RATED BY A JURY OF TWENTY-FOUR EXPERTS*

Competency Frequency	COMPETENCY	ACTIVITIES								
		Assists producer	Assists dealers	Sells direct	Assists Producers	Reports results	Sells over counter	Solicits dealers	Recognizes abnormal procedures	Assists dealers
		1	2	3	4	5	6	7	8	9
		%	%	%	%	%	%	%	%	%
162	9. Ability to determine the livestock (poultry) performance records to keep	91.7	62.5**	83.3	91.7	91.7	75.0		75.0	62.5
152	17. Ability to evaluate farmer's roughages, pasture and grain resources	87.5	79.1	87.5	87.5	62.5	62.5		70.8	58.3
150	1. Knowledge of the physical make-up and digestive process of farm animals (birds)	91.7	70.8	66.7	75.0	62.5	62.5		95.8	62.5
148	40. Understands the promotional techniques for increasing feed sales	62.5	83.3	79.1	50.0	54.1	70.8	79.1		91.7
145	7. Understands the factors to consider in selecting specific animals (birds)	79.1	70.8	70.8	83.3	58.3	58.3		79.1	54.1
145	34. Knowledge of transportation and delivery procedures	62.5	79.1	87.5	54.1**	50.0	79.1	83.3		70.8
130	6. Knowledge of the agricultural practices used in the community	62.5	62.5	62.5	62.5	62.5	62.5		62.5	62.5

*Rated as important by fifty percent or more of the twenty-four member jury of experts.

**X^2 score significant at the .05 level.

***X^2 score significant at the .01 level.

Competencies Necessary for the Performance of Seven Essential Activities

Six of the forty competencies were considered by fifty percent or more of the jury members as essential for the performance of seven sales activities. Competency number 13, "Understands the place of sanitation in the livestock operation" with a competency frequency of 148, as indicated in Table IV, was the most important competency for the performance of seven activities by sales personnel in the feed industry. Competency 8, "Ability to determine the grade of animals (birds)" with a competency frequency of 109, was the least important for the performance of the seven essential sales activities as rated by the jury of twenty-four experts. One chi-square score was significant for the responses to one out of 54 ratings of the 6 competencies, indicating very little disagreement between the four sub-juries.

Competencies Necessary for the Performance of Six Essential Sales Activities

Of the six competencies which were considered essential for the performance of six sales activities, Table V indicates that Competency 28, "Ability to fill out company invoices and sales contracts" with a competency frequency of 136, is the most important competency for the performance of six essential activities by sales personnel in the feed industry. Competency 23, "Knowledge of the methods used in collecting bills" with a competency frequency of 107, was the

TABLE IV

SIX COMPETENCIES WHICH ARE NECESSARY FOR THE PERFORMANCE OF SEVEN ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY AS RATED BY A JURY OF TWENTY-FOUR EXPERTS*

Competency Frequency	COMPETENCY	ACTIVITIES								
		Assists producer	Assists dealers	Sells direct	Assists producer	Reports results	Sells over counter	Solicits dealers	Recognizes abnormal procedures	Assists dealers
		1	2	3	4	5	6	7	8	9
		%	%	%	%	%	%	%	%	%
148	13. Understands the place of sanitation in the livestock (poultry) operation	87.5	58.3	79.1	87.5	66.7	70.8		87.5	
148	21. Ability to determine with the customer the amount of credit needed	83.3**	58.3	79.1	91.7	83.3	66.7			66.7
144	11. Understands the influence of housing upon the growth and rate of gain	83.3	58.3	70.8	83.3	66.7	66.7		83.3	50.0
144	12. Understands the influence of equipment upon growth and the rate of gain	83.3	58.3	70.8	87.5	66.7	66.7		83.3	
126	10. Understands the influence of heredity on the rate of gain	83.3		58.3	70.8	66.7	50.0		62.5	50.0
109	8. Ability to determine the grade of the animals (birds)	62.5	58.3	50.0	58.3	58.3			50.0	50.0

[*] Rated as important by fifty percent or more of the twenty-four jury of experts.

[**] X^2 score significant at the .05 level.

TABLE V

THREE COMPETENCIES RATED AS IMPORTANT FOR THE PERFORMANCE OF SIX ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY AS RATED BY A JURY OF TWENTY-FOUR EXPERTS*

Competency Frequency	COMPETENCY	ACTIVITIES								
		Assists producer	Assists dealers	Sells direct	Assists producer	Reports results	Sells over counter	Solicits dealers	Recognizes abnormal procedures	Assists dealers
		1	2	3	4	5	6	7	8	9
		%	%	%	%	%	%	%	%	%
136	28. Ability to fill out company invoices and sales contracts	66.7	62.5	91.7			87.5	75.0		62.5
118	19. Knowledge of marketing channels for livestock (poultry) and their products	58.3		58.3	70.8	62.5	58.3			54.1
107	23. Knowledge of the methods used in collecting bills	(33.3)**	50.0	66.7	54.1	54.1	62.5	54.1		

*Rated as important by fifty percent or more of the twenty-four member jury of experts.

**X^2 score significant at the .05 level. The competency frequency will be given in parentheses when rated as essential by less than fifty percent of the twenty-four member jury of experts, and the X^2 score is significant.

least important of the three competencies which are essential for performing six of the essential feed sales activities. Competency 19, "Knowledge of marketing channels for livestock (poultry) and their products" with a competency frequency of 118, was also included in this group of three competencies. One chi-square score was significant for the responses to one out of 54 ratings of the 6 competencies, indicating very little disagreement between the four sub-juries.

Competencies Necessary for the Performance of Three and Four Essential Sales Activities

Three competencies were considered as necessary for the performance of three or four of the essential feed sales activities, as shown by Table VI. Competency 16, "Ability to fit animals for show or sale," and Competency 39, "Understands the problems of feed dealers in the community" were rated as necessary for the performance of four activities. Competency 38, "Understands the criteria for appraising prospective feed dealers" was rated as necessary for the performance of three of the feed sales activities. Total competency frequencies for the three competencies were as follows: Competency 16, 123; Competency 39, 122; and Competency 38, 89. There were no significant chi-square scores for the three competencies indicating no disagreement between the sub-juries.

TABLE VI

THREE COMPETENCIES RATED AS IMPORTANT FOR THE PERFORMANCE OF THREE OR FOUR ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY AS RATED BY A JURY OF TWENTY-FOUR EXPERTS*

Competency Frequency	COMPETENCY	ACTIVITIES								
		Assists producer	Assists dealers	Sells direct	Assists producer	Reports results	Sells over counter	Solicits dealers	Recognizes abnormal procedures	Assists dealers
		1	2	3	4	5	6	7	8	9
		%	%	%	%	%	%	%	%	%
123	16. Ability to fit animals for show or sale	75.0	62.5	66.7						54.1
122	39. Understands the problems of feed dealers in the community		70.8	58.3				79.1		83.3
89	38. Understands the criteria for appraising prospective feed dealers		50.0					83.3		66.7

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*Rated as important by fifty percent or more of the twenty-four member jury of experts.

Significant Chi-Square Responses for the Competencies

Ten of the forty competencies received ratings by the sub-juries which were significantly different on seven of the activities. There were 14 chi-square scores which were significant out of a possible 360, as shown in Table VII. In Table VII, the responses of the jury members indicated that there were fourteen chi-square scores which were significant, involving ten competencies, and seven of the nine activities. Competency 2, "Understands the composition of farm grains, roughages, and supplements," was rated as being essential for the performance of Activity 1, "Assists producers", and Activity 6, "Sells over the counter," by more members of the educator sub-juries than by the members of the industry sub-juries. For the remaining nine competencies involving twelve chi-square scores which were significantly different, the competencies were rated as being essential by more of the members of the industry sub-juries than by the members of the educator sub-juries.

Since there were only 14 out of a possible 360 responses which were significantly different, this indicated very little disagreement between the sub-juries for determining the importance of forty competencies for the performance of nine sales activities in the feed industry.

TABLE VII

TEN COMPETENCIES AND THE ACTIVITIES FOR WHICH SUB-JURY RESPONSES WERE SIGNIFICANTLY DIFFERENT

Competency Frequency	Competency	Activity	Sub-Jury				
			Dealer	Trg. Dir.	Ag. Ed. Res.	Bus. Ed. Res.	Total Jury
185	29. Understands the importance of personal sales traits and a pleasing personality	5. Reports results	25.0	25.0	16.7	8.3	75.0*
179	32. Ability to use suggestive selling and to close the sale	5. Reports results	25.0	20.8	12.5	4.1	62.5*
174	2. Understands the composition of farm grains, roughages, and supplements	1. Assists producers	25.0	8.3	25.0	20.0	79.1*
		6. Sells over counter	25.0	8.3	20.8	25.0	79.1*
162	9. Ability to determine the livestock (poultry) performance records to keep	1. Assists producers	25.0	20.8	12.5	4.1	62.5*
152	22. Ability to determine the repayment ability of the customer	1. Assists producers	25.0	25.0	25.0	8.3	83.3**
		2. Assists dealers	25.0	16.7	20.8	4.1	66.7*
		3. Sells direct	25.0	20.8	20.8	8.3	75.0*

TABLE VII--Continued

Competency Frequency	Competency	Activity	Sub-Jury				
			Dealer	Trg. Dir.	Ag. Ed. Res.	Bus. Ed. Res.	Total Jury
148	21. Ability to determine with the customer the amount of credit that is needed	1. Assists producers	25.0	25.0	25.0	8.3	83.3*
145	34. Knowledge of transportation and delivery procedure	4. Assists producer	25.0	16.7	8.3	4.1	54.2*
136	28. Ability to fill out company invoices and sales contracts	1. Assists producer	20.8	25.0	16.7	4.1	66.7*
126	10. Understands the influence of heredity in the rate of gain	1 Assists producers	25.0	4.1	12.5	12.5	54.1*
107	23. Knowledge of the methods used in collecting bills	1. Assists producers	12.5	16.7	4.1	0.0	(33.3)*
		9. Assists dealers	8.3	20.8	16.7	0.0	45.8*

$^*X^2$ score significant at the .05 level.

Determination of Loci

The twenty-four member jury of experts indicated the loci at which they believed the competencies could be taught for the performance of essential activities by sales personnel in the feed industry. Each jury member made his loci selections for each competency on the basis that the competency was required for the performance of one or more of the nine essential sales activities.

The loci at which the competencies could be taught were considered to be "possible" or "appropriate" if they were checked by fifty percent or more of the members of the jury. The loci which were not considered to be "possible" or "appropriate" by fifty percent or more of the members of the jury of experts, but which had sub-jury responses which were significantly different, were enclosed by parentheses and included in the tables.

Competencies Which Could Be Taught At Eleven and Twelve "Possible" and "Appropriate" Loci

Table VIII indicates that all of the six loci had a "possible" rating at which each of the 18 competencies could be taught for the performance of the nine essential sales activities by sales personnel in the feed industry. The sub-juries members considered it "possible" to teach eighteen of the forty competencies at all six of the loci, as shown in Table VIII. All of the 18 competencies were rated as

TABLE VIII

ELEVEN AND TWELVE "POSSIBLE" AND "APPROPRIATE" LOCI AT WHICH EIGHTEEN COMPETENCIES COULD BE TAUGHT FOR THE PERFORMANCE OF NINE ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY*

Competency Frequency	COMPETENCY	LOCI											
		POSSIBLE						APPROPRIATE					
		High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 year College	Adult	Dealer	On Job
		%	%	%	%	%	%	%	%	%	%	%	%
185	29. Understands the importance of personal sales traits and a pleasing personality	66.7	70.8	75.0	75.0	100.0	83.3	50.0	54.1	54.1	54.1	87.5	66.7
185	30. Ability to greet customers and study their needs	54.1**	66.7	58.3	66.7	100.0	83.3	(45.8)**	58.3	50.0	50.0	87.5	66.7
182	31. Ability to classify and cope with different types of customers	(50.0)**	62.5**	62.5	62.5	91.9	83.3	(45.8)**	58.3	50.0	50.0	83.3	70.8
179	32. Ability to use suggestive selling and to close the sale	58.3**	70.8**	70.8	70.8	95.8	83.3		58.3	54.1	62.5	91.7	70.8
177	4. Ability to determine rations for specific live-stock (poultry) uses	75.0	59.1	95.8	83.3	87.5	70.8	58.3	58.3	79.1	54.1	75.0	
174	2. Understands the composition of farm grains, roughages, and supplements	83.3	87.5	100.0	87.5	79.1	66.7	62.5	75.0**	75.0	62.5	54.1	

*Rated as important by fifty percent or more of the twenty-four member jury of experts.

**X^2 score significant at the .05 level.

TABLE VIII--Continued

Competency Frequency	COMPETENCY	LOCI											
		POSSIBLE						APPROPRIATE					
		High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 year College	Adult	Dealer	On Job
		%	%	%	%	%	%	%	%	%	%	%	%
168	3. Understands the various methods of preparing livestock (poultry) feeds, i.e., grinding, pelleting	58.3**	70.8	83.3	75.0	91.7	75.0		54.1	54.1	54.1	83.3	50.0
165	15. Understands the control of livestock (poultry pests and parasites	79.1	79.1	91.7	83.3	91.7	75.0	58.3	70.8	79.1	66.7	66.7	58.3
165	20. Ability to determine the amount of profit that is likely	66.7**	79.1	79.1	79.3	83.3	83.3		66.7	62.5	62.5	62.5	50.0
162	9. Ability to determine the livestock (poultry) performance records to keep	83.3	87.5	87.5	79.1	83.3	70.8	58.3	66.7	50.0	62.5	70.8	54.1
159	14. Ability to identify common livestock (poultry) diseases	75.0	79.1	91.7	83.3	87.5	66.7	54.1	70.8	79.1	58.3	58.3	
152	17. Ability to evaluate farmer's roughages, pasture, and grain resources	75.0	75.0	83.3	79.1	75.0	58.3	54.1	54.1	66.7	58.3	54.1	
152	22. Ability to determine the repayment ability of the customer	50.0	70.8	70.8	70.8	87.5	87.5		54.1	50.0	54.1	83.3	58.3

**x^2 score significant at the .05 level.

TABLE VIII--Continued

Competency Frequency	COMPETENCY	LOCI											
		POSSIBLE						APPROPRIATE					
		High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 year College	Adult	Dealer	On Job
		%	%	%	%	%	%	%	%	%	%	%	%
150	1. Knowledge of the physical make-up and digestive process of farm animals (birds)	79.1	83.3	95.8	83.3	83.3	75.0	58.3	70.8**	79.1	54.1	54.1**	(45.8**)
148	13. Understands the place of sanitation in the livestock (poultry) operation	75.0	87.5	87.5	79.1	79.1	70.8	62.5	79.1	66.7	70.8	58.3	
148	21. Ability to determine with the customer the amount of credit needed	58.3	70.8	70.8	75.0	79.1	79.1	54.8	54.1	54.1	54.1	75.0	50.0
144	11. Understands the influence of housing upon the growth and rate of gain	75.0	79.1	79.1	79.1	79.1	66.7	58.3	62.5	58.3	66.7	62.5	
144	12. Understands the influence of equipment upon growth and rate of gain	75.0	79.1	79.1	79.1	79.1	79.1	54.1	62.5	58.3	70.8	62.5	

**X^2 score significant at the .05 level.

"appropriate" at the "post high school," "4 year college," "adult," and "dealer" loci. In addition 12 of the 18 competencies were rated "appropriate" at the "high school" locus, and 10 of the 18 competencies were rated as "appropriate" at the "on-the-job" locus. Thirteen chi-square scores out of a possible 216 were significant. This indicated very little disagreement between the sub-juries.

Competency 30, "Ability to greet customers, and study their needs," and Competency 31, "Ability to classify and cope with different types of customers," were rated as "appropriate" by 45.8% of the jury of experts, and each competency had a chi-square score which was significant at the "high school" locus. In other words, the sub-juries tended to disagree regarding the teaching of these two competencies at the "high school" locus. Competency 1, "Knowledge of the physical make-up and digestive process of farm animals (birds)," was rated as "appropriate" by 45.8% of the jury of experts, and it had a chi-square score which was significant at the "on-the-job" locus.

Competencies Which Could Be Taught At Nine and Ten "Possible" and "Appropriate" loci

Table IX has seven competencies which the jury members indicated could be taught at either nine or ten loci. Competency 36, "Understands the research findings of livestock (poultry) feeding trials" had the highest total

TABLE IX

NINE AND TEN "POSSIBLE" AND "APPROPRIATE" LOCI AT WHICH SEVEN COMPETENCIES COULD BE TAUGHT FOR THE PERFORMANCE OF NINE ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY*

Competency Frequency	COMPETENCY	LOCI											
		POSSIBLE						APPROPRIATE					
		High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 year College	Adult	Dealer	On Job
		%	%	%	%	%	%	%	%	%	%	%	%
178	36. Understands the research findings of livestock (poultry) feeding trials		58.3	75.0**	62.5	100.0	79.1		50.0**	70.8	50.0	79.1	58.3
147	37. Ability to express feeding and nutrition information to groups		58.3	66.7	58.3**	91.7	66.7		54.1**	62.5		79.1	54.1
145	7. Understands the factors to consider in selecting specific animals (birds)	79.1	75.0	79.1	75.0	62.5	62.5	58.3	62.5	54.1	50.0		
145	18. Knowledge of livestock prices and price trends	62.5	66.7	70.8	70.8	62.5	70.8	(33.3)**	54.1	62.5	58.3		
130	6. Knowledge of the agricultural practices used in the community	62.5**	58.3		66.7	62.5	62.5	(45.8)**	50.0**		50.0	54.1	
126	10. Understands the influence of heredity on the rate of gain	62.5	62.5	75.0	70.8	75.0	50.0		50.0	66.7	50.0	50.0**	
118	19. Knowledge of marketing channels for livestock (poultry) and their products	62.5	70.8	70.8	75.0	70.8	70.8		58.3	62.5	58.3		

*Rated as important by fifty percent or more of the twenty-four member jury of experts.

**X^2 score significant at the .05 level.

competency frequency of 178. Competency 36 and Competency 37, "Ability to express feeding and nutrition information to groups" were not rated as "possible" or "appropriate" at the "high school" locus. Competency 37 was not rated as "appropriate" at the "adult" locus. The dealer or company "locus" had the highest percentage of selections at both the "possible" and "appropriate" levels.

The other five competencies were "possible" at each of the six loci except Competency 6, "Knowledge of the agricultural practices used in the community," which was rated as neither "possible" nor "appropriate" at the "4 year college" locus. Competency 6 was not rated as "appropriate" at the "high school" and "on-the-job" loci.

Competency 7, "Understands the factors to consider in selecting specific animals (birds)," Competency 18, "Knowledge of livestock prices and price trends," and Competency 19, "Knowledge of marketing channels for livestock (poultry) and their products," were not rated as "appropriate" at the "dealer" and "on-the-job" loci. Neither was Competency 19 rated as "appropriate" at the "high school" locus. Competency 10, "Understands the influence of heredity on the rate of gain" was not rated as "appropriate" at the "high school" and "on-the-job" loci. There were nine out of 108 chi-square scores which were significant for the seven competencies indicating very little disagreement between the four sub-juries.

Competencies Which Could Be Taught At Six, Seven, and Eight "Possible" and "Appropriate" Loci

Eight of the forty competencies were considered by the jury members to be "possible" and "appropriate" at six, seven, and eight loci. Table X indicates that Competency 3, "Knowledge of feed mill operation," Competency 16, "Ability to fit animals for show or sale," Competency 8, "Ability to determine the grade of the animals," were considered "possible" at each of the six loci. Competency 23, "Knowledge of methods used in collecting bills," was considered "possible" at all loci, except at the "high school" locus where it had a chi-square score which was significant, and a locus frequency of 45.8%.

The "post high school" locus was rated as "appropriate" for Competency 16 and Competency 8, and the "4-year college" locus was "appropriate" for Competency 8 and Competency 4, "Understands the promotional techniques for increasing feed sales." Competency 16 was "appropriate" at the "dealer" locus. The remaining competencies, except for Competencies 16 and 8, were "appropriate" at both the "dealer" and "on-the-job" loci.

There were twelve out of 96 chi-square scores which were significant for the eight competencies indicating some disagreement between the four sub-juries.

TABLE X

SIX, SEVEN AND EIGHT "POSSIBLE" AND "APPROPRIATE" LOCI AT WHICH EIGHT COMPETENCIES COULD BE TAUGHT FOR THE PERFORMANCE OF NINE ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY*

Competency Frequency	COMPETENCY	LOCI											
		POSSIBLE						APPROPRIATE					
		High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 year College	Adult	Dealer	On Job
		%	%	%	%	%	%	%	%	%	%	%	%
185	5. Understands feeding practices and programs used in the community	66.7	66.7		75.0	79.1	87.5	**(45.8)				70.8	70.8
156	33. Knowledge of feed mill operation	58.3	58.3	54.1	54.1	91.7	87.5					83.3	79.1
149	35. Ability to write up and interpret the feeding results of his customers and convey them to management		50.0	54.1		100.0	83.3					91.7	75.0
148	40. Understands the promotional techniques for increasing feed sales		**58.3	70.8	**54.1	95.8	79.1		****45.8)	54.1		87.5	50.0
145	34. Knowledge of transportation and delivery procedures	**50.0	54.1		**(45.8)	87.5	91.7					79.1	87.5
123	16. Ability to fit animals for show or sale	66.7	66.7	70.8	62.5	66.7	58.3		58.3			54.1	
109	8. Ability to determine the grade of the animals	66.7	66.7	60.8	62.5	58.3	58.3		54.1	58.3			
107	23. Knowledge of methods used in collecting bills	***(45.8)	***62.5	**62.5	***54.1	91.7	75.0	**(25.0)			***(33.3)	91.7	58.3

*Rated as important by fifty percent or more of the twenty-four member jury of experts.
X^2 score significant at the .05 level. *X^2 score significant at the .01 level.

Competencies Which Could be Taught at Three and Four "Possible" and "Appropriate" Loci

The seven competencies, shown in Table XI, were considered by the jury members as "possible" and "appropriate" at both the "dealer" and the "on-the-job" loci with one exception. Competency 38, "Understands the criteria for appraising prospective feed dealers," was not rated as "appropriate" at the "on-the-job" locus. The ratings of the jury members indicated they considered that the "dealer" and the "on-the-job" loci were the only "possible" and "appropriate" loci where the seven competencies could be taught.

Competency 24, "Understands the policies of his business," Competency 28, "Ability to fill out company invoices and sales contracts," Competency 39, "Understands the problems of feed dealers in the community," and Competency 38, "Understands the criteria for appraising prospective feed dealers" have chi-square scores which were significant. There were seven out of 48 chi-square scores which were significant for the four competencies. However, it should be noted that less than 50 percent of the jury members indicated it was either "possible" or "appropriate" to teach these four competencies at the loci where the chi-square scores were significant (see Table XI).

TABLE XI

THREE AND FOUR "POSSIBLE" AND "APPROPRIATE" LOCI AT WHICH SEVEN COMPETENCIES COULD BE TAUGHT FOR THE PERFORMANCE OF NINE ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY*

Competency Frequency	COMPETENCY	LOCI											
		POSSIBLE						APPROPRIATE					
		High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 year College	Adult	Dealer	On Job
		%	%	%	%	%	%	%	%	%	%	%	%
201	25. Thoroughly understands his company's feed products					95.8	79.1					95.8	66.7
171	26. Understands other products sold by his business (company)					87.5	83.3					87.5	70.8
164	24. Understands the policies of his business (company)	(25.0)**				91.7	83.3					91.7	70.8
158	27. Knowledge of the feed products of competitors					83.3	83.3					79.1	66.7
136	28. Ability to fill out company invoices and sales contracts		(25.0)**			95.8	91.7		(25.0)**			95.8	75.0
122	39. Understands the problems of feed dealers in the community	(12.5)**			(33.3)**	83.3	66.7				(25.0)**	79.0	50.0
89	38. Understands the criteria for appraising prospective feed dealers				(37.5)**	79.1	50.0					75.0	

*Rated as important by fifty percent or more of the twenty-four member jury of experts.

**X^2 score significant at the .05 level.

Significant Chi-Square Responses for "Possible" and "Appropriate" Loci

The 31 out of 480 chi-square scores which were significant, as shown in Table XII, were for the loci determinations which were considered important by 45.8 percent or more of the twenty-four jury members. The 45.8 percentage was used, in this case, to present a broader view of the differences of the sub-juries since nine of the 31 responses which were significantly different had been rated as "possible" or "appropriate" by 45.8 percent of the jury members.

Fifteen competencies had 31 chi-square scores which were significant for the "possible" and "appropriate loci determinations. Loci where the 31 chi-square scores were significant were high school, 11; post high school, 11; 4-year college, 2; adult, 4; dealer, 2; and on-the-job, 1.

For all of the 28 cases where the "high school," "post high school," "4-year college," and "adult" loci determinations were significantly different, the responses of the educator sub-juries were higher than those of the industry sub-juries. For the three "dealer" and "on-the-job" loci determinations which were significantly different, the responses of the industry sub-juries were higher than the responses of the educator sub-juries for the importance of the loci at which the competencies could be taught.

TABLE XII

SIGNIFICANT CHI-SQUARE RESPONSES FOR "POSSIBLE" AND "APPROPRIATE" LOCI*

Competency Frequency	Competency	Loci	Sub-Jury Dealer	Trg. Dir.	Ag. Ed. Res.	Bus. Ed. Res.	Total Jury
185	30. Ability to greet customers and study their needs	Possible High School	8.3	4.1	25.0	20.8	54.1**
		Appropriate High School	8.3	.0	20.8	16.7	(45.8)**
184	5. Understands feeding practices and programs used in the community	Appropriate High School	4.1	4.1	25.0	12.5	(45.8)**
182	31. Ability to classify and cope with different types of customers	Possible High School	8.3	.0	20.8	20.8	50.0**
		Post High School	8.3	8.0	25.0	20.8	62.5**
		Appropriate Post High School	8.3	.0	20.0	16.7	(45.8)**
179	32. Ability to use suggestive selling and to	Possible High School	8.3	4.1	25.0	20.8	58.3**
		Post High School	8.3	12.5	25.0	25.0	70.8**
178	36. Understands the research findings of livestock (poultry) feeding trials	Possible 4 Yr. College	12.5	12.5	25.0	25.0	75.0**
		Appropriate Post High School	8.3	8.3	25.0	8.3	50.0**

TABLE XII--Continued

Competency Frequency	Competency	Loci	Sub-Jury				
			Dealer	Trg. Dir.	Ag. Ed. Res.	Bus. Ed. Res.	Total Jury
174	2. Understands the composition of farm grains, roughages, and supplements	Appropriate Post High School	16.7	8.3	25.0	25.0	75.0**
168	3. Understands the research findings of livestock (poultry) feeding trials	Possible High School	12.5	4.1	25.0	16.7	58.3**
165	20. Ability to determine the approximate amount of profit that is likely	Possible High School	8.3	8.3	25.0	25.0	66.7**
150	1. Knowledge of the physical make-up and digestive process of farm animals (birds)	Appropriate Post High School Dealer On-Job	12.5 16.7 16.7	8.3 20.8 20.8	25.0 8.3 4.1	25.0 8.3 4.1	70.8** 54.1** (45.8)**
148	40. Understands the appropriate techniques for increasing feed sales	Possible Post High School Adult Appropriate Post High School	4.1 4.1 4.1	8.3 8.3 4.1	25.0 20.8 16.7	20.8 20.8 20.8	58.3** 54.1** (45.8)**

TABLE XII--Continued

Competency Frequency	Competency	Loci	Sub-Jury				
			Dealer	Trg. Dir.	Ag. Ed. Res.	Bus. Ed. Res.	Total Jury
147	37. Ability to express feeding and nutrition information to groups	Possible Adult	12.5	4.1	25.0	16.7	58.3**
		Appropriate Post High School	8.3	4.1	25.0	16.7	54.1**
145	34. Knowledge of transportation and delivery procedure	Possible High School	4.1	4.1	20.8	20.8	50.0**
		Adult	4.1	4.1	20.8	16.7	(45.8)**
130	6. Knowledge of the agricultural practices used in the communigy	Possible High School	8.3	8.3	25.0	20.8	62.5**
		Appropriate High School	4.1	4.1	25.0	12.5	(45.8)**
		Post High School	4.1	4.1	25.0	12.5	50.0**
126	10. Understands the influence of heridity on the rate of gain	Appropriate Dealer	25.0	8.3	8.3	8.3	50.0**
107	23. Knowledge of the methods used in collecting bills	Possible High School	0.0	0.0	25.0	20.8	(45.8)**
		Post High School	4.1	8.3	25.0	25.0	62.5**
		4 Yr. College	0.0	4.1	25.0	25.0	54.1**
		Adult	0.0	4.1	25.0	25.0	54.1**

*Rated as important by 45.8 percent or more of the twenty-four member jury of experts.

**X^2 score significant at the .05 level.

The McQuitty Hierarchial Classification System*

The McQuitty Hierarchial Classification System (46) was used to cluster the responses of the jury members to the importance of forty competencies for the performance of nine essential activities by sales personnel in the feed industry, and to cluster the responses to the "possible" and "appropriate" loci at which the competencies could be taught.

The McQuitty Hierarchial Classification System by "members" and "reciprocal pairs" as used in this study was a form of Typal Analysis. "Member" was used in the first level of classification to refer to the items. When two "members" come together to form a "reciprocal pair," the result also was called a "member," and treated in the same manner as a single item. Therefore, as the "members" were brought together at the various levels they consist of single items or groups of several items. The following diagram illustrates the method of association that was used for this analysis.

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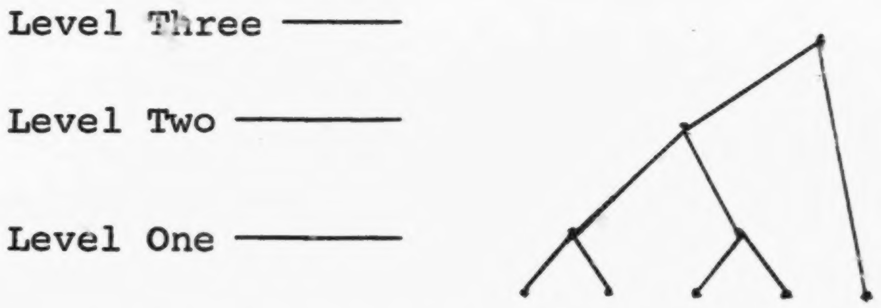
*Capabilities and Improvements of Linkage Analysis as a Clustering Method." Louis L. McQuitty, _Education and Psychological Measurement_, Vol. 24, November 3, Fall, 1964. The actual classification was performed by the 3600 Computer at Michigan State. A program called "Program HiClass" is available through the computer Institute for Social Science Research, Michigan State University.



The lower levels have higher indices of association between "members" or "reciprocal pairs." The higher the level the lower the indices of association between the combinations of "members" and "reciprocal pairs" (41).

Clusters of responses using McQuitty Hierarchial System

The clustering of the responses of the members of the jury of experts were illustrated in Figures 1, 2, and 3. The characteristics of the sub-groups which were formed as a result of the clustering of the responses of the jury members were given in Tables XIII, XIV, and XV. Figure 1 and Table XIII should be read as a single unit, since they both describe the clusters that were formed by the hierarchial classification of the responses of the jury members to the importance of forty competencies for the performance of nine sales activities. Figure 2 and Table XIV make a unit and should be read together, since they both describe the clusters that were formed as a result of the clustering of the responses to the importance of six "possible" loci at which the forty competencies could be taught. Figure 3 and Table XV are read together, since they involve the clustering of six "appropriate" loci at which the forty competencies could be taught.

The information included in Figures 1, 2, and 3 are interpreted in the same way for each figure. For example, Figure 1 indicates that the responses were clustered into three sub-groups; A, B, and C. Sub-group A was composed of members 1, 21, 19, 5, 2, 10, 16, 13, 17, 4, 7, 11, 3, and 24, and was considered the most valid sub-group, since larger categories were presumed to be more dependable (39). This sub-group of 14 members agreed on 69 out of 360 items at the twelfth level for the importance of forty competencies for the performance of nine sales activities. The highest agreement in this sub-group was between individual 10, a sales training director, and individual 16, an agricultural education researcher whose responses were in agreement on 342 out of 360 items at level 1. Sub-group B was composed of individuals 18, 20, 23, and 6, and sub-group C was composed of individuals 8, 194, 9, 15, 12, and 22. Figures 2 and 3 were interpreted in the same manner as Figure 1.

Table XIII indicates that there were three clusters for the responses to the importance of forty competencies for the performance of nine essential activities by sales personnel in the feed industry. The sub-group A was composed of the following members of the jury of twenty-four experts: feed dealers, 1, 2, 3, 4, and 5; sales training directors, 7, 10, and 11; agricultural education researchers, 13, 16,

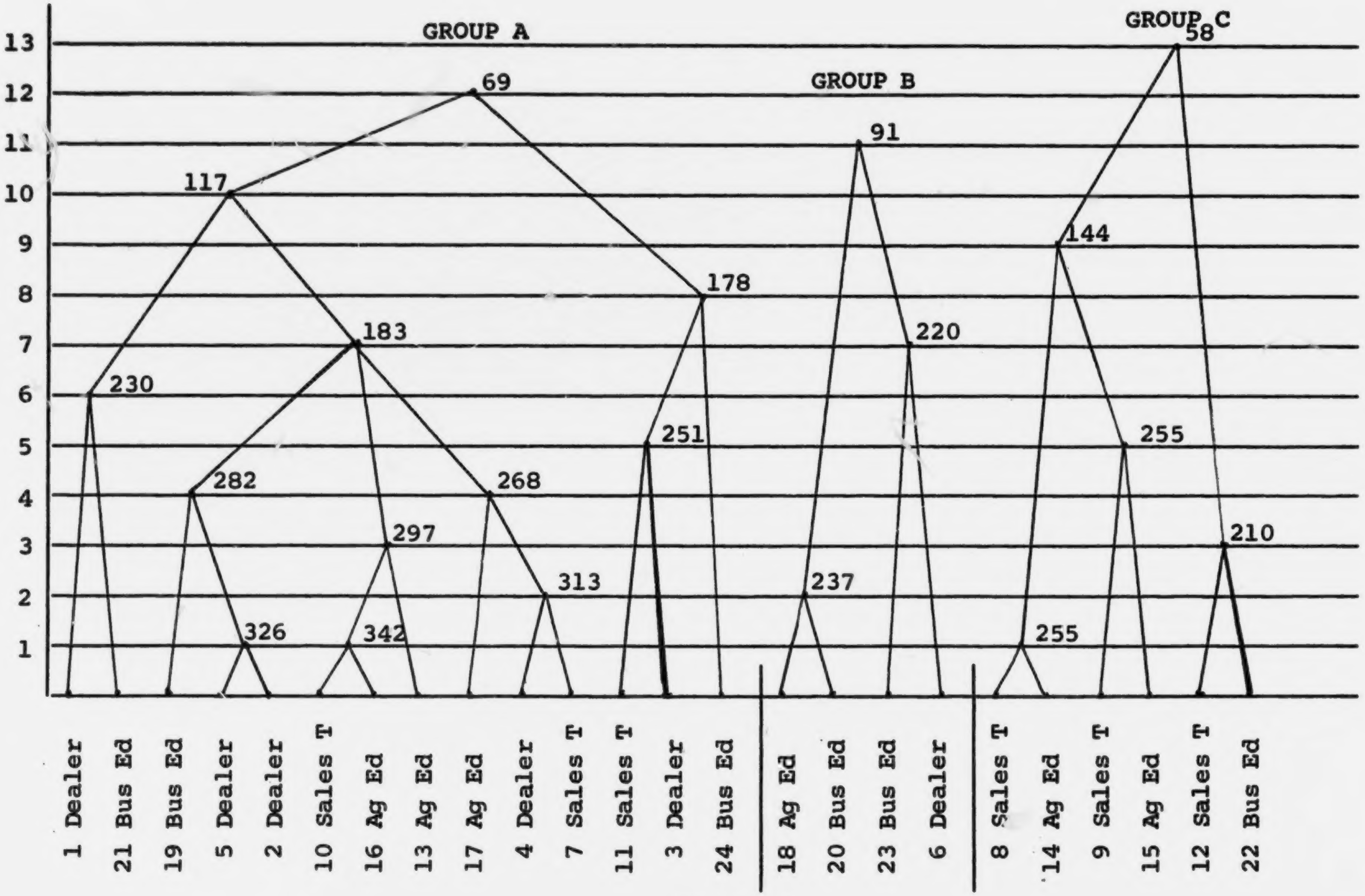

GROUP A
GROUP B
GROUP C
13
12
11
10
9
8
7
6
5
4
3
2
1
58
69
91
117
144
178
183
220
230
251
255
282
268
297
313
237
210
326
342
255
1 Dealer
21 Bus Ed
19 Bus Ed
5 Dealer
2 Dealer
10 Sales T
16 Ag Ed
13 Ag Ed
17 Ag Ed
4 Dealer
7 Sales T
11 Sales T
3 Dealer
24 Bus Ed
18 Ag Ed
20 Bus Ed
23 Bus Ed
6 Dealer
8 Sales T
14 Ag Ed
9 Sales T
15 Ag Ed
12 Sales T
22 Bus Ed

FIGURE 1

CLUSTERS OF THE RESPONSES TO THE IMPORTANCE OF FORTY COMPETENCIES FOR THE PERFORMANCE OF NINE ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY AS RATED BY A JURY OF TWENTY-FOUR EXPERTS USING THE MCQUITTY HIERARCHIAL CLASSIFICATION SYSTEM OF INDIVIDUAL "MEMBERS" AND "RECIPROCAL PAIRS"

TABLE XIII

COMPOSITION AND CHARACTERISTICS OF THE TWENTY-FOUR JURY OF EXPERTS RESPONSES TO THE IMPORTANCE OF FORTY COMPETENCIES FOR THE PERFORMANCE OF NINE ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY

Sub-group	Individual Members in Sub-group		Characteristics of Sub-group
A 14 members	Dealers Trg. Dir. Ag. Ed. Res. Bus. Ed. Res.	1,2,3,4,5 7,10,11 13,16,17 19,21,24	Sub-group A had a tendency to indicate that most of the forty competencies were needed for the performance of nine essential activities by sales personnel in the feed industry. They indicated that the sales persons should have a knowledge of the common livestock diseases, pests, and parasites, and livestock sanitation. The sales person should also help the producer with his equipment and housing problems. This sub-group also indicated that the sales person should help the producer determine the amount of profit that is likely, and have a knowledge of marketing channels and livestock price trends.
B 4 members	Dealers Trg. Dir. Ag. Ed. Res. Bus. Ed. Res.	6 none 18 20,23	Sub-group B responded that most of the competencies were important for the performance of the nine sales activities, but that ability to identify common livestock diseases, the control of livestock pests and parasites was not necessary. This sub-group indicated that it was not essential to write up and interpret feeding results, nor was it essential to be able to present feeding information to groups of producers. Sub-group B thought that a knowledge of marketing channels and livestock prices was important, and also that the influence of equipment and housing in the rate of gain was also important

TABLE XIII--Continued

Sub-group	Individual Members in Sub-group		Characteristics of Sub-group
C	Dealers	none	Sub-group C indicated that a knowledge of common livestock diseases, sanitation and pest and parasite control was important, and that it was important to write up and interpret feeding results, and to be able to give feeding information to groups of producers. This Sub-group did not feel, however, that it was very important to understand the influence of housing and equipment upon the rate of gain of animals. They further felt little need to have a knowledge of marketing channels or livestock price trends. The sub-group further indicated that it was not important for sales persons to determine the profit that is likely for the producer.
6 members	Trg. Dir.	8,9,12	
	Ag. Ed. Res.	14,15	
	Bus. Ed. Res.	22	

and 17; and business education researchers, 19, 21, and 29. The table also lists the characteristics of sub-groups A, B, and C. Tables XIV and XV are read the same as Table XIII.

Summary of the McQuitty Hierarchial Classification System treatment of the data

When the responses by the jury of twenty-four members to the importance of forty competencies for the performance of nine essential activities by sales personnel in the feed industry were clustered, three sub-groups were formed. It was found that there was an even distribution of all the sub-juries in the fourteen member Sub-Group A. Sub-Group B was composed of 4 members, and Sub-Group C of 6 members, and both were probably too small to obtain an even distribution from each of the four sub-juries.

When the responses by the jury of twenty-four experts to the importance of six "possible" loci at which forty competencies could be taught for the performance of nine essential activities by sales personnel in the feed industry were clustered, three sub-groups were formed. The sub-groups that were formed did not have as even representation from the various sub-juries as was the case in the hierarchial classification of the competencies and the activities. One 8 member sub-group for the "possible" loci was composed of mostly business education researchers, another sub-group of 12 members was composed of an over representation of

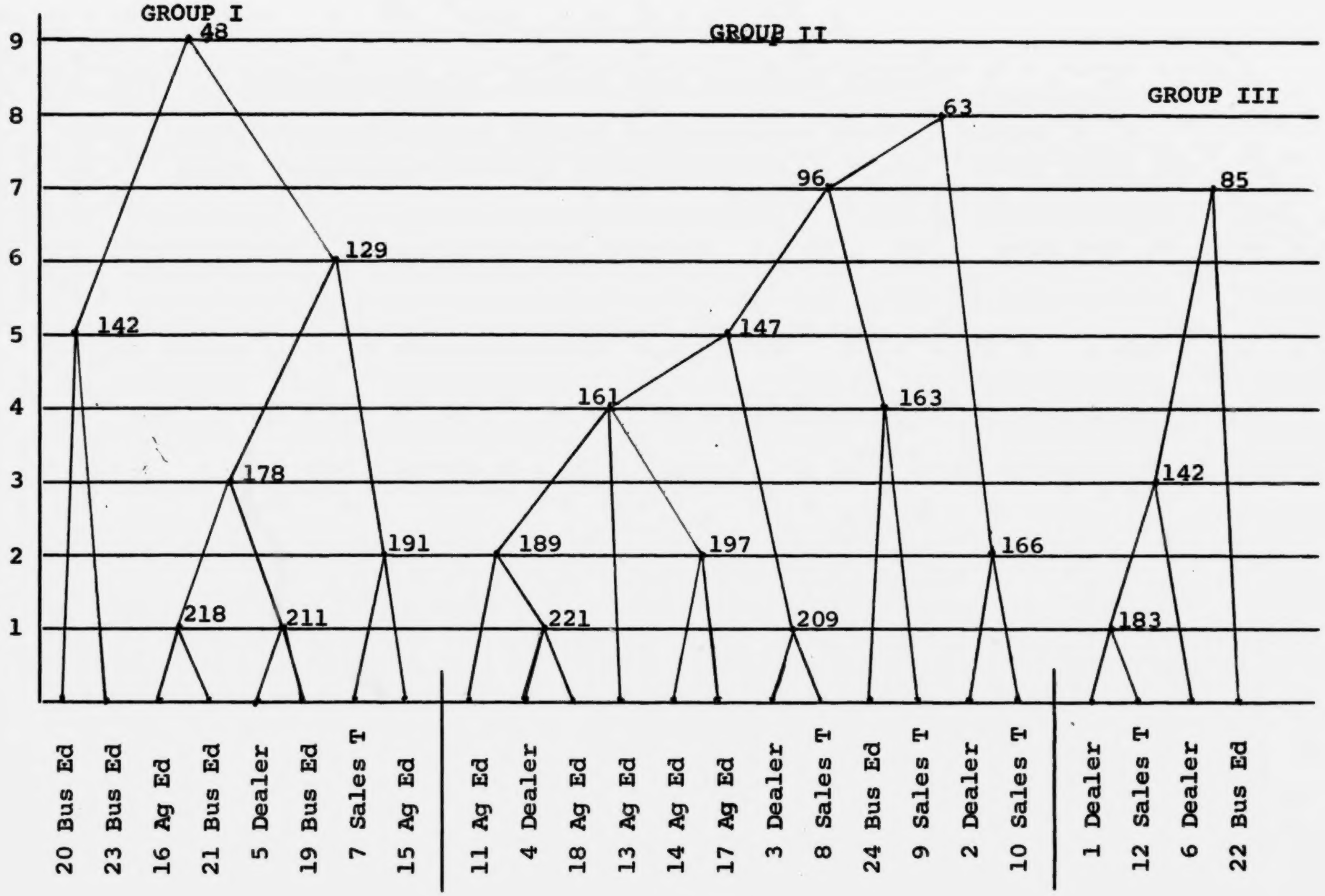


FIGURE 2

CLUSTERS OF THE RESPONSES TO THE IMPORTANCE OF SIX "POSSIBLE" LOCI AT WHICH FORTY COMPETENCIES COULD BE TAUGHT FOR THE PERFORMANCE OF NINE ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY AS RATED BY A JURY OF TWENTY-FOUR EXPERTS USING THE MCQUITTY HIERARCHIAL CLASSIFICATION OF INDIVIDUAL "MEMBERS" AND "RECIPROCAL PAIRS"
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TABLE XIV

JURY SUB-GROUP AND CHARACTERISTICS OF THE JURY OF TWENTY-FOUR EXPERTS RESPONSES TO THE IMPORTANCE OF SIX "POSSIBLE" LOCI AT WHICH FORTY COMPETENCIES COULD BE TAUGHT FOR THE PERFORMANCE OF NINE ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY

Sub-group	Individual Members in Sub-group		Characteristics of Jury Sub-groups
1 8 members	Dealers Trg. Dir. Ag. Ed. Res. Bus. Ed. Res.	5 7 15,16 19,20,21,22	Sub-group 1 indicated that personal sales traits, feed mill operation, and feed delivery procedures could be taught at both the high school, and post high school loci. The understanding of research results could be taught at the post high school locus. In addition Sub-group 1 indicated that feed mill operation and methods of feed preparation was "possible" at the adult school locus.
2 12 members	Dealers Trg. Dir. Ag. Ed. Res. Bus. Ed. Res.	2,3,4 8,9,10,11 13,14,17,18 24	Sub-group 2 indicated that livestock (poultry) sanitation, and the importance of housing and equipment on the rate of gain of the animal (birds) could be "possible" at the high school, post high school, and adult school loci. Sub-group 2 further indicated that an understanding of marketing channels could be taught at the adult school locus.

TABLE XIV--Continued

Sub-group	Individual Members in Sub-group		Characteristics of Jury Sub-groups
3 4 members	Dealers Trg. Dir. Ag. Ed. Res. Bus. Ed. Res.	1,6 12 none 22	Sub-group 3 predominately selected the 4-year college, dealer or company school, and on-the-job as the possible loci for teaching the forty competencies for the performance of nine essential activities by sales personnel in the feed industry. This Sub-group indicated that it was not "possible" to teach personal sales traits, feed mill operation, livestock sanitation, feed delivery procedures, and the importance of housing and equipment at the high school and post high school loci. They further indicated that feed preparation, feed mill operation, and an understanding of marketing channels was not possible at the adult school locus.

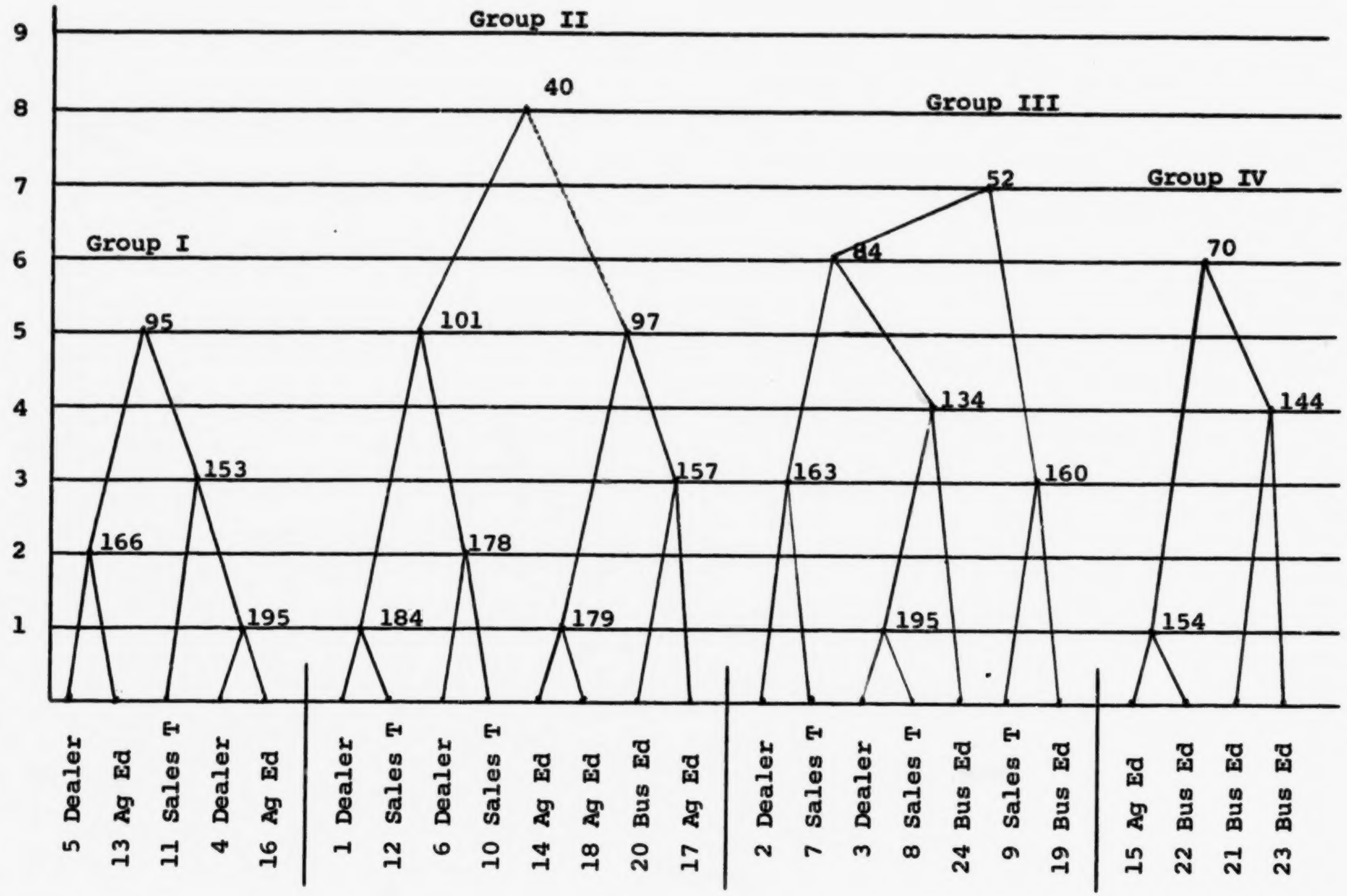
9
8
7
6
5
4
3
2
1
Group I
Group II
Group III
Group IV
40
95
101
97
84
52
70
153
166
195
184
178
179
157
163
134
195
160
154
144
5 Dealer
13 Ag Ed
11 Sales T
4 Dealer
16 Ag Ed
1 Dealer
12 Sales T
6 Dealer
10 Sales T
14 Ag Ed
18 Ag Ed
20 Bus Ed
17 Ag Ed
2 Dealer
7 Sales T
3 Dealer
8 Sales T
24 Bus Ed
9 Sales T
19 Bus Ed
15 Ag Ed
22 Bus Ed
21 Bus Ed
23 Bus Ed

FIGURE 3

CLUSTERS OF THE RESPONSES TO THE IMPORTANCE OF SIX "APPROPRIATE" LOCI AT WHICH FORTY COMPETENCIES COULD BE TAUGHT FOR THE PERFORMANCE OF NINE ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY AS RATED BY A JURY OF TWENTY-FOUR EXPERTS USING THE MCQUITTY HIERARCHIAL CLASSIFICATION SYSTEM OF INDIVIDUAL "MEMBERS" AND "RECIPROCAL PAIRS"

TABLE XV

JURY SUB-GROUP AND CHARACTERISTICS OF THE JURY OF TWENTY-FOUR EXPERTS RESPONSES TO THE IMPORTANCE OF SIX "APPROPRIATE" LOCI AT WHICH FORTY COMPETENCIES COULD BE TAUGHT FOR THE PERFORMANCE OF NINE ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY

Sub-group	Individual Members in Sub-group		Characteristics of Jury Sub-groups
I 5 members	Dealers Trg. Dir. Ag. Ed. Res. Bus. Ed. Res.	4,5 11 13,16 none	Sub-group I indicated that an understanding the selection of specific animals, and "the influence of equipment upon the rate of gain," are "appropriate" at the high school locus. The ability to present feed information to groups was considered "appropriate" at the post high school locus. Sub-group I also indicated that the influence of heredity was "appropriate" at the adult school locus, and the ability to evaluate the producer's resources was "appropriate" at the 4 year college locus. The ability to fill out company invoices and sales contracts was considered "appropriate" at the dealer locus.
II 8 members	Dealers Trg. Dir. Ag. Ed. Res. Bus. Ed. Res.	1,6 10,12 14,17,18 20	Sub-group II were not as unanimous in responses regarding where the influence of equipment and housing and livestock selection competencies might be taught. However, this Sub-group indicated that understanding the promotional techniques at the 4-year college locus, the ability to fill out sales invoices at the dealer locus, and the preparation of feeds at the on-the-job locus were not "appropriate" loci where the competencies could be taught.

TABLE XV--Continued

Sub-group	Individual Members in Sub-group		Characteristics of Jury Sub-groups
III	Dealers	2,3	Sub-group III indicated that the dealer locus was appropriate for teaching the influence of housing and equipment on the rate of gain of the animals (poultry). This sub-group also indicated that the on-the-job locus was "appropriate" for teaching the various feed preparations to sales personnel. The understanding of specific animal selection at the high school locus, and the ability to present feed information to groups at the high school locus, were not considered "appropriate" by sub-group III.
7 members	Trg. Dir.	7,8,9	
	Ag. Ed. Res.	none	
	Bus. Ed. Res.	19,24	
IV	Dealers	none	Sub-group IV indicated that the ability to present feed information to groups at the post high school locus, the understanding of promotional techniques at the 4 year college locus, and the understanding of feed preparation at the on-the-job locus were the "appropriate" loci where these competencies could be taught for preparing sales personnel in the feed industry. However, this sub-group indicated that the understanding of the influence of equipment on the rate of gain at the high school locus, the ability to evaluate the producer's resources at the 4 year college locus, the influence of housing and equipment at the dealer locus were not "appropriate" loci where these competencies could be taught.
4 members	Trg. Dir.	none	
	Ag. Ed. Res.	15	
	Bus. Ed. Res.	21,22,23	

Sales training directors and agricultural education researchers. The third sub-group was too small for an even distribution from the four sub-juries.

When the responses by the jury of twenty-four experts to the importance of six "appropriate" loci at which forty competencies could be taught for the performance of nine essential activities by sales personnel in the feed industry were clustered, four sub-groups were formed of 5, 8, 7, and 4 members each. As was the case with the "possible" loci, an even representation from each of the four sub-juries was not obtained by the McQuitty Hierarchial Classification System. The sub-group with 8 members was composed of representatives from each of the four sub-juries. The two sub-groups of 5 and 7 members each had representation from three of the jury sub-groups, while the group with 4 members was represented by one agricultural researcher, and by three business education researchers.

The results of the McQuitty Hierarchial Classification System appeared to indicate that the four sub-juries were not markedly different from each other, since all four sub-juries were about equally represented in each of the sub-groups that were formed as a result of the three analyses. However, more agreement was evident among the represponses of the sub-groups for the competencies that were needed for the performance of essential sales activities, than for the responses for the "possible" and "appropriate" loci at which the competencies could be taught.

Competencies Emerging or Becoming Increasingly Important

This open-end phase of the study elicited 51 responses for 23 competencies which were considered to be emerging or becoming increasingly important. No attempt was made to differentiate between the "emerging" and "becoming increasingly important" categories. Neither were the competencies rated as to their importance for the performance of nine essential activities by personnel in the feed industry.

Table 16 shows that the competency "Understands the specific technique of product promotion" was indicated as a competency that was emerging or becoming increasingly important by five jury members. The competencies "Understands the credit problems of producers," and "Understands the importance of the allocation and management of the salesman's time" were each indicated as important by four jury members.

Most of the 23 competencies shown in Table XVI, as emerging or becoming increasingly important, were included in this study. Several competencies mentioned were of a general nature such as: "Understands the importance of the allocation and management of a salesman's time"; "Ability to use mathematical skills"; "Understands computer services and

TABLE XVI

TWENTY-THREE COMPETENCIES WHICH ARE EMERGING OR BECOMING INCREASINGLY IMPORTANT FOR THE PERFORMANCE OF THE SALES FUNCTION OF THE FEED INDUSTRY AS INDICATED BY A JURY OF TWENTY-FOUR EXPERTS

COMPETENCY	COMPETENCY FREQUENCY
Understands the specific techniques of product promotion	5
Understands the credit problems of producers	4
Understands the importance of the allocation and management of the salesman' time	4
Understands the inventory management problems of dealers	3
Understands the techniques of salesmanship	3
Understands the specialization in agriculture	3
Ability to plan profit for producers in specific situations	3
Understands the principles of farm management	2
Understands the analysis of farm records	2
Understands the problems of feed dealers	2
Understands the psychology of selling	2
Ability to use mathematical skills	2
Ability to communicate written and oral skills	2
Understands computer services and analyses	2
Understands the importance of individual self-improvement while on the job	2
Understands the philosophy and image of own company	2
Understands the economy of the area	2
Understands feeding mechanization	1
Ability to set-up sub-dealers	1
Understand the philosophy and image of competitor's company	1
Understands business law as it affects the dealer and salesman	1
General knowledge of animals	1
Understands the feed storage	1
Total	51

analyses"; and "Understands the importance of individual self-improvement while on the job." The competency, "Understands the importance of the allocation and management of the salesman's time," had four responses as a competency that is emerging and becoming increasingly important. This competency appears to be important for the performance of the sales function in the feed industry, and it would probably be valuable for the performance of the sales function for any other industry.

Summary of the Responses

The competencies needed for the performance of nine sales activities. Twenty-one competencies were considered important by 50 percent or more of the jury of experts for the performance of each of the nine sales activities. Very little disagreement was evidenced since there were only fourteen responses out of 360 which were significantly different for determining the importance of forty competencies for the performance of nine sales activities. For twelve of the fourteen responses which were significantly different, fifty percent or more of the jury of twenty-four experts had indicated that the competency was necessary for the performance of the activity.

The McQuitty Hierarchial Classification System was used to cluster the responses of the twenty-four member jury of experts to the importance of the forty competencies for the performance of the nine essential sales activities to determine the extent to which the members within the sub-juries would cluster based on agreement of their responses. Three sub-groups were formed with approximately equal representation from each of the dealer, sales training director, agricultural education educator, and business education educator sub-juries. There appeared to be very high agreement between the four sub-juries concerning the competencies needed for the performance of nine essential sales activities.

The loci at which the competencies could be taught. When the competencies were grouped according to the number of loci at which the competencies could be taught some unique characteristics became evident. It was found that the jury members considered eighteen competencies could be taught at either eleven or twelve "possible" and "appropriate" loci. The eighteen competencies were considered "possible" at each of the six loci, and "appropriate" at either five or six of the loci. Of the eighteen competencies, six were not considered "appropriate" at the "high school" locus, and seven were not considered "appropriate" at the "on-the-job" locus.

The eighteen competencies were considered to be of more than average importance since they had competency frequency ratings from 141 to 185. The competencies appeared to be of a "general" nature, and not specifically related to any particular feed company. There appeared to be good agreement among the jury of twenty-four experts as to where these eighteen competencies could be taught.

Seven competencies were in the next group which fifty percent or more of the jury members considered could be taught at nine or ten "possible" and "appropriate" loci. These competencies were of lesser importance than the first group having a competency frequency range from 178 down to 118. The competencies in this group were of a "general" nature, and not specifically related to any particular feed company. These competencies appeared to indicate that they were quite complex so that education beyond the "high school" and "on-the-job" loci would be needed. It appeared that there was comparatively good agreement among the jury of twenty-four experts as to the loci where these competencies could be taught. There were eight out of 86 chi-square scores which were significant for the seven competencies in this group, as compared to 41 out of 480 for the 40 competencies in the study.

The jury members indicated that eight competencies could be taught at six, seven, or eight "possible" and "appropriate" loci. This group of competencies appeared to have a wide range of importance for the performance of the nine sales activities. The competency frequencies ranged downward from 185 to 109. The five most important competencies appeared to be company related and were considered "appropriate" at only the "dealer" and "on-the-job" loci. The three competencies of lesser importance were "general" competencies with competency frequencies from 123 to 107. These three competencies were "possible" at all loci. The competency "Knowledge of methods used in collecting bills" had six of the twelve chi-square responses which were significant for this group of competencies. However, there was very little disagreement between the juries for this group.

The last group of seven competencies were "possible" and "appropriate" at three or four loci. Competency frequencies ranging from 201 to 89 indicated a wide range of importance for the performance of nine sales activities. However, it should be realized that the competency with a frequency of 89 was necessary for the performance of only two activities, and that the competency with a frequency of 122 was necessary for the performance of five activities. The remaining five competencies were considered essential by more of the jury members. All of these competencies seemed to refer to policies or practices closely related to the particular feed company involved in the performance of the competency rather than to the industry in general. The jury of twenty-four experts indicated that only the "dealer" and the "on-the-job" loci were the "possible" and "appropriate" loci at which the seven competencies could be taught. There were five out of 84 chi-square responses which were significant for these seven competencies indicating that there was little disagreement among the members of the jury of experts.

In analyzing the McQuitty Hierarchial Classification System for the "possible" and "appropriate" loci determinations, it was found that three sub-groups were formed for the "possible" loci, and four sub-groups for the "appropriate" loci. In neither case was there a consistent representation from each of the jury sub-groups.

The "possible" loci sub-groups had 8, 12, and 4 members in each of the three groups. Representation by sub-jury on each sub-group was as follows: dealers, 1, 3, 2; sales training directors, 1, 4, 1; agricultural education researchers, 2, 4, 0; and business education researchers, 4, 1, 1.

The "appropriate" locu sub-groups had 5, 6, 7, and 4 members in each of the four sub-groups. The representation by sub-jury on each sub-group was as follows: dealers, 2, 2, 2, 0; sales training directors, 1, 2, 3, 0; agricultural education researchers, 2, 3, 0, 1; and business education researchers, 0, 1, 2, 3.

The Mcquitty Hierarchial Classification System was used to classify the responses to the loci for all of the competencies, and there appeared to be general agreement concerning the loci at which the competencies could be taught.

New and emerging competencies. When the jury members were asked if any additional competencies were emerging or becoming increasingly important, twenty-three competencies were elicited. Among those most often mentioned were the following: "Understands the specific techniques of product promotion"; "Understands the credit problems of producers"; and "Understands the importance of the allocation and management of the salesman's time."

Although most of the competencies mentioned had been included in the study, it should be noted that four members of the jury of experts indicated that the competency "Understands the importance of the allocation and management of the salesman's time," was important for the performance of the sales function in the feed industry.

Summary of the Process Used in the Study

The purpose of this study was to demonstrate a process which included four factors: an "industry function" approach, the identification of all vocational competencies and loci, a "regional survey," and an industry and education jury.

There appeared to be very little disagreement between the four sub-juries in rating the forty competencies for the performance of each of the nine sales activities. There were 14 out of 360 chi-square scores which were significant for the responses of the jury members to the importance of the forty competencies. The agreement between the industry sub-juries was very high, and on only four of the fourteen significant chi-square scores for the essentiality of the competencies did the responses of the two sub-juries differ by more than 8.5%.

For three of the fourteen significant chi-square scores the industry sub-juries recorded lower response frequencies for the competencies considered essential for the performance of the nine sales activities than did the educator sub-juries.*

Each of the McQuitty Hierarchial Classification System sub-groups had about equal representation from each of the sub-juries. The nearly equal representation by the sub-jury members on the sub-groups which were formed by the McQuitty Hierarchial Classification System indicated agreement between the responses of the feed dealers and the sales training directors for the importance of forty competencies for the performance of nine sales activities by personnel in the feed industry, and the loci at which the competencies could be taught.

There were 41 out of 480 chi-square scores which were significant for the loci at which the jury members considered the competencies could be taught which indicated very little disagreement between the sub-juries. One competency, which was rated essential by less than 50 percent of the jury members, had six chi-square scores which were significant. The "high school" locus had 16 of the 41 chi-square scores which were significant. The McQuitty Hierarchial Classification System classified the "possible" responses into three sub-groups of 8, 12, and 4, members each with representation from each of the four sub-juries in the sub-groups of 8 and 12 members. The "appropriate" responses were clustered into four sub-groups of 5, 9, 7, and 4 members each. The "appropriate" sub-jury representation was not as evenly distributed as for the "possible" analysis.

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*Although the chi-square analysis indicated much agreement, subjectively, some of the educators indicated that they did not feel comfortable when making some of the competency determinations for their importance in performing the nine essential feed sales activities, and the loci at which the competencies could be taught.

For all twenty-one chi-square scores which were significant when 45.8% or more of the jury members had indicated that the loci was "possible" or "appropriate," the educator sub-juries had higher response frequencies. Most of these responses which were significantly different were at the "high school" or "post high school" loci.

Footnotes

46. Louis McQuitty, "Capabilities and Improvements of Linkage Analysis as a Clustering Method," Educational and Psychological Measurement, 29:3 (Fall, 1964), pp. 441-456.

47. Louis McQuitty, "Elementary Factor Analysis," Michigan State University, June, 1961. (Mimeographed.)

48. Louis McQuitty, "Single and Multiple Hierarchial Classification by Reciprocal Pairs and Rank Order Types," Michigan State University. (Mimeographed.) n.d.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This was a study to demonstrate a process for determining the vocational competencies essential for the performance of nine feed sales activities and the loci at which the competencies could be taught.

Method and Procedure

Procedure. An interview instrument was developed with the assistance of feed industry and university personnel who were experienced in the sales function of the feed industry. The instrument contained forty competencies which appeared to be essential for the performance of nine feed sales activities. In previous research conducted by Clark of Michigan State University, feed industry personnel rated these nine activities as being essential for the performance of the sales function of the feed industry.

Personal interviews were conducted with a twenty-four member jury of experts who indicated whether or not each of forty competencies were essential for the performance of the nine activities of the sales function of the feed industry. For the competencies rated essential the jury members indicated at which loci they believed each category could be taught.

The competencies rated as essential by fifty percent or more of the twenty-four jury members were listed in percentages.

The total frequency of the competencies having been rated as essential for the performance of one or more of the nine activities was used to determine "competency frequency."

The loci rated as "possible" and "appropriate" by fifty percent or more of the jury of twenty-four members were listed in percentages. Competencies were listed by the number of loci at which the jury members believed the competencies could be taught.

The chi-square analysis of data was used for determining the statistical significance of the responses of the jury for the competencies which were considered essential for the performance of each of the nine activities, and for determining the significance of the responses for the loci at which the jury members believed [illegible] competencies could be taught.

The McQuitty Hierarchial Classification System was used to cluster the responses of the jury members to the essentiality of forty competencies for the performance of nine sales activities by personnel in the feed industry. Also, this system was used to cluster the responses to the "possible" and "appropriate" loci at which the competencies could be taught.

Summary of Findings of the Study

1. Twenty-one competencies were identified as essential for the performance of each of nine activities of the sales function in the feed industry.
2. All forty competencies were considered by the jury members to be essential for the performance of more than one activity.
3. All forty competencies were considered "possible" or "appropriate" for teaching at more than one locus.
4. The "dealer or company" locus appeared to be the most commonly selected locus at which the jury members considered many competencies could be taught.
5. Some of the competencies appeared to be "general," and other competencies appeared to be "specific" to a particular feed company. The "general" competencies rated as essential could be taught at any of the "possible" and "appropriate" loci in the opinion of the jury members. The competencies were rated as "possible" and "appropriate" at the "dealer" and "on-the-job" loci.
6. Chi-square scores were significant for 14 out of 360 possible responses of the jury members for determining the importance of forty competencies for the performance of nine feed sales activities, indicating very little disagreement between the four sub-juries.
7. Chi-square scores were significant for 41 out of 480 possible responses of the jury members for determining

the loci at which the competencies could be taught indicating little disagreement between the four sub-juries.

8. There was less disagreement among the jury sub-groups for the "appropriate" loci selections than for the "possible" loci selections.
9. The responses of the jury members to the "high school" and "post high school" loci had the greatest number of significant chi-square scores indicating a greater difference of opinion by sub-juries for these two loci.
10. The McQuitty Hierarchial Classification System grouped the responses regarding the essentiality of forty competencies for the performance of nine sales activities into three sub-groups with nearly equal representation from each of the sub-juries indicating a very high level of agreement among the twenty-four member jury of experts.
11. The McQuitty Hierarchial Classification System grouped the responses to the "possible" loci into three sub-groups, without equal representation from each of the sub-juries indicating a low level of agreement between the four sub-juries.
12. The McQuitty Hierarchial Classification System grouped the responses to the "appropriate" loci into four sub-groups, three of which contained nearly equal representation from each of the sub-juries indicating a medium level of agreement between the four sub-juries.

Conclusions

The hypothesis was accepted. There is general agreement between the four sub-juries for determining the importance of forty competencies for the performance of nine essential sales activities in the feed industry, and the loci at which the competencies could be taught.

Recommendations

It appears that the application of the process involving the four factors used in this study could be studied for determining the vocational competencies and loci of instruction for other functions in the feed industry and for the functions in other industries.

The competencies identified as essential for the performance of sales activities could be considered by those responsible for development of curricula and courses of study for persons in or preparing to enter positions which require the performance of sales activities.

The loci identified as "possible" and "appropriate" could be given consideration by those responsible for development of curricula and courses of study for persons in or preparing to enter positions which require the performance of sales activities.

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APPENDICES

APPENDIX A

INSTRUCTIONS

This study concerns the SALES FUNCTION of the feed industry. The information from this study will serve as a basis for developing training programs for personnel who perform the sales function of the feed industry. You are asked to help by doing two things: first, to indicate whether or not the competencies which are listed are necessary for the performance of the various feed sales activities, and second, to indicate where the competencies could be taught.

Here is a list of nine ACTIVITIES which have been identified as essential by feed industry personnel for the performance of the sales function:

1. Assists farmers in planning feeding programs and trouble shoots his feeding problems
2. Assists local dealers in promoting use of specific feeds by local producers
3. Sells direct to producer
4. Assists producer to see through his own problems by reviewing with him his own situation
5. Follows upon results obtained by customers and reports those to management
6. Sells directly to customer across the counter in an informative manner without misrepresentation
7. Solicits local dealers to sell company's products
8. Recognizes abnormal and detremental practices and animal health conditions
9. Assists local dealers in promotional campaigns and feed and grain clinics for livestock feeders

Now read the S-1 sample and check the appropriate columns:

COMPETENCIES	ACTIVITIES								
	Assists producer	Assists dealers	Sells direct	Assists producer	Reports results	Sells over counter	Solicits dealers	Recognizes abnormalties	Assists dealers
	1	2	3	4	5	6	7	8	9
S-1. Ability to identify poison plants and the symptoms of illness that they cause when consumed by livestock									

Six loci, or locations at which each competency could be taught, have been listed:

a. High school - the conventional high school with grades 9 - 12
b. Post High School - a formal terminal educational program beyond the high school of two years or less duration
c. 4 Year College - the conventional 4 year college
d. Adult or Evening - a non-credit program available to the public through the public schools or cooperative extension services
e. Dealer or Company - non-credit program offered by the feed dealer or the feed company
f. On the job - during employment on the job

Now read the S-1 sample and check the loci determinations as follows:
a. possible - the location(s) where the competency could be taught
b. appropriate - more selective location(s) where the competency could be taught

COMPETENCIES		LOCI					
		High School	Post High School	4 Year Coll.	Adult or Eve.	Dealer or Com.	On the job
S-1. Ability to identify poison plants and the symptoms of illness that they cause when consumed by livestock		(a)	(b)	(c)	(d)	(e)	(f)
	Pos.						
	App.						

Now follow the same procedure in checking S-2 sample:

COMPETENCIES	ACTIVITIES										LOCI					
	Assists producer	Assists dealers	Sells direct	Assists producer	Reports results	Sells over counter	Solicits dealers	Recognizes abnormalties	Assists dealer		High School	Post High School	4 yr. College	Adult or Evening	Dealer or Company	on the job
	1	2	3	4	5	6	7	8	9		(a)	(b)	(c)	(d)	(e)	(f)
S-2 Understands special terms of sales										Pos. App.						

FEED SALES COMPETENCIES AND THE LOCUS AT WHICH THEY COULD BE TAUGHT

Competencies needed by personnel to perform the sales function in the feed industry.	The nine most important activities performed by sales personnel in the feed industry. Place a (√) in each column where the competency is needed to perform the activity.									The locus at which the competency could be taught. If the competency is needed to perform one or more activities, place a (√) for your choices of possible, and appropriate loci at which instruction could be offered.						
COMPETENCIES	ACTIVITIES									LOCI						
	Assists producer	Assists dealers	Sells direct	Assists producer	Reports results	Sells over counter	Solicits dealers	Recognizes abnormalties	Assists dealers		High School	Post High School	4 yr. College	Adult or Evening	Dealer or Company	on the job
	1	2	3	4	5	6	7	8	9		(a)	(b)	(c)	(d)	(e)	(f)
1. Knowledge of the physical make-up and digestive process of farm animals (birds)										Pos.						
										App.						
2. Understands the composition of farm grains, roughages, and supplements										Pos.						
										App.						
3. Understands the various methods of preparing livestock (poultry) feeds, i.e., grinding, pelleting, etc.										Pos.						
										App.						
4. Ability to determine rations for specific livestock (poultry uses										Pos.						
										App.						
5. Understands feeding practices and programs used in the community										Pos.						
										App.						
6. Knowledge of the agricultural practices used in the community										Pos.						
										App.						
7. Understands the factors to consider in selecting specific animals (birds)										Pos.						
										App.						
8. Ability to determine the grade of the animals (birds)										Pos.						
										App.						
9. Ability to determine the livestock (poultry) performance records to keep										Pos.						
										App.						

COMPETENCIES	ACTIVITIES										LOCI					
	Assists producer	Assists dealers	Sells direct	Assists producer	Reports results	Sells over counter	Solicits dealers	Recognizes abnormalties	Assists dealers		High School	Post High School	4 yr. College	Adult or Evening	Dealer or Company	on the job
	1	2	3	4	5	6	7	8	9		(a)	(b)	(c)	(d)	(e)	(f)
10. Understands the influence of heredity on the rate of gain										Pos.						
										App.						
11. Understands the influence of housing upon the growth and rate of gain										Pos.						
										App.						
12. Understands the influence of equipment upon growth and the rate of gain										Pos.						
										App.						
13. Understands the place of sanitation in the livestock (poultry) operation										Pos.						
										App.						
14. Ability to identify common livestock (poultry) diseases										Pos.						
										App.						
15. Understands the control of livestock (poultry) pests and parasites										Pos.						
										App.						
16. Ability to fit animals for show or sale										Pos.						
										App.						
17. Ability to evaluate farmer's roughages, pasture, and grain resources										Pos.						
										App.						
18. Knowledge of livestock prices and price trends										Pos.						
										App.						
19. Knowledge of marketing channels for livestock (poultry) and their products										Pos.						
										App.						
20. Ability to determine the approximate amount of profit that is likely										Pos.						
										App.						

COMPETENCIES	ACTIVITIES										LOCI					
	Assists producers	Assists dealers	Sells direct	Assists producer	Reports results	Sells over counter	Solicits dealers	Recognizes abnormalties	Assists dealers		High School	Post High School	4 yr. College	Adult or Evening	Dealer or Company	on the job
	1	2	3	4	5	6	7	8	9		(a)	(b)	(c)	(d)	(e)	(f)
21. Ability to determine with the customer the amount of credit needed										Pos.						
										App.						
22. Ability to determine the repayment ability of the customer										Pos.						
										App.						
23. Knowledge of the methods used in collecting bills										Pos.						
										App.						
24. Understands the policies of his business (company)										Pos.						
										App.						
25. Thoroughly understands his company's feed products										Pos.						
										App.						
26. Understands other products sold by his business (company)										Pos.						
										App.						
27. Knowledge of the feed products of competitors										Pos.						
										App.						
28. Ability to fill out company invoices and sales contracts										Pos.						
										App.						
29. Understands the importance of personal sales traits and a pleasing personality										Pos.						
										App.						
30. Ability to greet customers and study their needs										Pos.						
										App.						
31. Ability to classify and cope with different types of customers										Pos.						
										App.						

COMPETENCIES	ACTIVITIES										LOCI					
	Assists producers	Assists dealers	Sells direct	Assists producer	Reports results	Sells over counter	Solicits dealers	Recognizes abnormalties	Assists dealers		High School	Post High School	4 yr. College	Adult or Evening	Dealer or Company	on the job
	1	2	3	4	5	6	7	8	9		(a)	(b)	(c)	(d)	(e)	(f)
32. Ability to use suggestive selling and to close the sale										Pos.						
										App.						
33. Knowledge of feed mill operations										Pos.						
										App.						
34. Knowledge of transportation and delivery procedures										Pos.						
										App.						
35. Ability to write up and interpret the feeding results of his customers and convey them to management										Pos.						
										App.						
36. Understands the research findings of livestock (poultry) feeding trials										Pos.						
										App.						
37. Ability to express feeding and nutrition information to groups										Pos.						
										App.						
38. Understands the criteria for appraising prospective feed dealers										Pos.						
										App.						
39. Understands the problems of feed dealers in the community										Pos.						
										App.						
40. Understands the promotional techniques for increasing feed sales										Pos.						
										App.						

APPENDIX B

List of Jury Members

Feed Industry -- Feed Dealers (Direct Sales to Farmers)

Joseph Metsker, Central Soya, South Whitely, Indiana.

Wayne Hogge, The Quaker Oats Company, Renick, Iowa.

Duane Klein, Allied Mills, Algona, Iowa.

Jack Harper, Hales and Hunter Company, Norborne, Missouri.

Louis Zobel, Ralston Purina Company, Columbus, Nebraska.

Raymond Wilke, Moorman Manufacturing Company, Norfolk, Nebraska.

Feed Industry -- Sales Training Directors

Reid Erickson, Central Soya, Decatur, Indiana.

Norman Smith, The Quaker Oats Company, Chicago, Illinois.

J. D. Lawler, Allied Mills, Libertyville, Illinois.

Maurice Durfee, Hales and Hunter Company, Riverdale, Illinois.

Clifford Garrison, Moorman Manufacturing Company, Quincy, Illinois.

Donald Rix, Ralston Purina Company, Omaha, Nebraska.

Agricultural Education Researchers

Dr. Robert Taylor, Director of the Vocational and Technical Education Center, Columbus, Ohio.

Norman Ehresman, University of Illinois, Urbana, Illinois.

Dr. Clarence Bundy, Iowa State University, Ames, Iowa.

Dr. Raymond Agan, Kansas State University, Manhattan, Kansas.

Dr. John Coster, University of Nebraska, Lincoln, Nebraska.

Dr. Raymond Clark, Michigan State University, East Lansing, Michigan.

Office and Distributive Education Researchers.

Dr. Raymond Dannenburg, Western Michigan University, Kalamazoo, Michigan.

Dr. Harland Samson, University of Wisconsin, Madison, Wisconsin.

Dr. Fairchild Carter, University of Indiana, Bloomington, Indiana.

Dr. Eugene Wylie, University of Indiana, Bloomington, Indiana.

Dr. Donald Jester, DePaul University, Chicago, Illinois.

Dr. Robert Poland, Michigan State University, East Lansing, Michigan.

List of Pre-Test Jury Members

Feed Industry -- Feed Dealers (Direct Sales to Farmers)

Harold McTaggart, Bad Axe Elevator, Port Hope, Michigan.

Frank Vedrode, Farmers Elevator, Emmett, Michigan.

Feed Industry -- Sales Training Directors

Marvin Salmon, Ralston Purina Company, Lapeer, Michigan.

Kenneth Yerrick, Economy Feed Company, Owosso, Michigan.

Agricultural Education Researchers

Dr. Harold Ecker, Michigan State University, East Lansing, Michigan.

Dr. Paul Sweeny, Michigan State University, East Lansing, Michigan.

Office and Distributive Education Researchers

Richard Schupe, Department of Public Instruction, Lansing, Michigan.

Edward Ferguson, Business Education, Michigan State University, East Lansing, Michigan.

APPENDIX C

TABLE XVII

IMPORTANCE OF FORTY COMPETENCIES FOR PERFORMANCE OF NINE ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY AS RATED BY A JURY OF TWENTY-FOUR EXPERTS

Competency Frequency	COMPETENCIES	Sub Jury	ACTIVITIES								
			Assists produces	Assists dealers	Sells direct	Assists Producer	Reports results	Sells over counter	Solicits dealers	Recognizes abnormalties	Assists dealers
			1	2	3	4	5	6	7	8	9
			%	%	%	%	%	%	%	%	%
201	25. Thoroughly understands his company's feed products	Dealers	25.0	25.0	25.0	20.8	25.0	25.0	25.0	25.0	25.0
		Trq. Dir.	25.0	20.8	25.0	25.0	25.0	20.8	20.8	25.0	16.7
		Aq. Ed. Res.	25.0	25.0	25.0	25.0	25.0	25.0	20.8	16.7	25.0
		Bus. Ed. Res.	25.0	25.0	25.0	20.8	20.8	25.0	20.8	12.5	25.0
		Total Jury	100.0	95.8	100.0	91.7	95.8	95.8	87.5	79.1	91.7
185	29. Understands the importance of personal sales traits and a pleasing personality	Dealers	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
		Trq. Dir.	25.0	20.8	25.0	25.0	25.0	20.8	20.8	20.8	20.8
		Aq. Ed. Res.	25.0	25.0	25.0	20.8	16.7	25.0	16.7	12.5	25.0
		Bus. Ed. Res.	16.7	20.8	25.0	12.5	8.3	25.0	20.8	8.3	12.5
		Total Jury	91.7	91.7	100.0	83.3	75.0*	95.8	83.3	66.7	83.3
185	30. Ability to greet customers and study their needs	Dealers	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
		Trq. Dir.	25.0	20.8	25.0	20.8	20.8	20.8	20.8	20.8	20.8
		Aq. Ed. Res.	20.8	25.0	25.0	16.7	12.5	25.0	16.7	12.5	25.0
		Bus. Ed. Res	20.8	12.5	25.0	20.8	16.7	25.0	20.8	12.5	16.7
		Total Jury	91.7	83.3	100.0	83.3	75.0	95.8	83.3	70.8	87.5
184	5. Understands feeding practices and programs used in the community	Dealers	20.8	20.8	20.8	20.8	16.7	20.8	20.8	20.8	20.8
		Trq. Dir.	25.0	16.7	25.0	25.0	16.7	16.7	16.7	25.0	16.7
		Aq. Ed. Res.	25.0	25.0	25.0	25.0	25.0	25.0	25.0	20.8	25.0
		Bus. Ed. Res.	20.8	20.8	25.0	16.7	16.7	25.0	16.7	16.7	20.8
		Total Jury	91.7	83.3	95.8	87.5	75.0	87.5	79.1	83.3	83.3
182	31. Ability to classify and cope with different types of customers	Dealers	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
		Trq. Dir.	25.0	20.8	25.0	20.8	20.8	20.8	20.8	20.8	20.8
		Aq. Ed. Res.	25.0	25.0	25.0	25.0	16.7	25.0	25.0	12.5	25.0
		Bus. Ed. Res.	16.7	12.5	20.8	12.5	12.5	20.8	16.7	8.3	12.5
		Total Jury	91.7	83.3	95.8	83.3	75.0	91.7	87.5	66.7	83.3
179	32. Ability to use suggestive selling and to close the sale	Dealers	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
		Trq. Dir.	25.0	20.8	25.0	20.8	20.8	20.8	20.8	20.8	20.8
		Aq. Ed. Res.	20.8	20.8	25.0	20.8	12.5	25.0	20.8	12.5	25.0
		Bus. Ed. Res.	16.7	12.5	25.0	16.7	4.1	25.0	20.8	8.3	12.5
		Total Jury	87.5	79.1	100.0	83.3	62.5*	95.8	87.5	66.7	83.3
178	36. Understands the research findings of livestock (poultry) feeding trials	Dealers	25.0	25.0	25.0	25.0	25.0	25.0	20.8	25.0	25.0
		Trq. Dir.	25.0	16.7	25.0	20.8	16.7	16.7	16.7	16.7	12.5
		Aq. Ed. Res.	25.0	20.8	20.8	25.0	20.8	16.7	16.7	20.8	20.8
		Bus. Ed. Res.	20.8	16.7	20.8	16.7	16.7	20.8	16.7	16.7	20.8
		Total Jury	95.8	79.1	91.7	87.5	79.1	79.1	70.8	79.1	79.1
177	4. Ability to determine rations for specific livestock (poultry) uses	Dealers	25.0	25.0	25.0	20.8	20.8	20.8	20.8	25.0	25.0
		Trq. Dir.	25.0	16.7	25.0	25.0	20.8	16.7	16.7	20.8	16.7
		Aq. Ed. Res.	25.0	16.7	16.7	25.0	16.7	20.8	12.5	25.0	16.7
		Bus. Ed. Res.	25.0	16.7	25.0	20.8	12.5	25.0	12.5	20.8	16.7
		Total Jury	100.0	75.0	91.7	91.7	70.8	83.3	58.3	91.7	75.0

*X^2 scores significant at the .05 level.

TABLE XVII--Continued

Competency Freauency	COMPETENCIES		ACTIVITIES								
			Assists Producer	Assists dealers	Sells direct	Assists producer	Reports results	Sells over counter	Solicits dealers	Recognizes abnormalties	Assists dealers
			1	2	3	4	5	6	7	8	9
		Sub Jury	%	%	%	%	%	%	%	%	%
174	2. Understands the composition of farm grains, roughages, and supplements	Dealers	25.0	25.0	25.0	25.0	20.8	25.0	25.0	25.0	25.0
		Trq. Dir.	25.0	8.3	16.7	16.7	16.7	8.3	12.5	16.7	12.5
		Ag. Ed. Res.	25.0	25.0	25.0	20.8	20.8	20.8	20.8	20.8	20.8
		Bus. Ed. Res.	25.0	20.8	16.7	20.8	20.8	25.0	8.3	16.7	20.8
		Total Jury	100.0	79.1*	83.3	83.3	79.1	79.1*	62.5	79.1	79.1
171	26. Understands other products sold by his business (company)	Dealers	20.8	20.8	20.8	20.8	20.8	25.0	25.0	20.8	25.0
		Trq. Dir.	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7	12.5
		Ag. Ed. Res.	20.8	20.8	25.0	16.7	20.8	25.0	20.8	16.7	25.0
		Bus. Ed. Res.	20.8	16.7	25.0	20.8	12.5	25.0	20.8	12.5	20.8
		Total Jury	79.1	75.0	87.5	75.0	70.8	91.7	83.3	66.7	83.3
168	3. Understands the various methods of preparing livestock (poultry) feeds, i.e., grinding, pelleting, etc.	Dealers	20.8	20.8	20.8	20.8	20.8	20.8	20.8	16.7	20.8
		Trq. Dir.	25.0	16.7	25.0	25.0	20.8	16.7	12.5	20.8	16.7
		Ag. Ed. Res.	20.8	25.0	20.8	25.0	25.0	25.0	12.5	20.8	25.0
		Bus. Ed. Res.	16.7	16.7	12.5	12.5	20.8	20.8	16.7	16.7	20.8
		Total Jury	83.3	79.1	79.1	83.3	70.8	83.3	62.5	75.0	83.3
165	15. Understands the control of livestock (poultry) pests and parasites	Dealers	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	20.8
		Trq. Dir.	25.0	16.7	25.0	20.8	20.8	16.7	12.5	25.0	12.5
		Ag. Ed. Res.	20.8	12.5	20.8	25.0	20.8	16.7	8.8	25.0	12.5
		Bus. Ed. Res.	16.7	16.7	20.8	12.5	12.5	16.7	8.3	20.8	12.5
		Total Jury	87.5	70.8	91.7	83.3	70.8	75.0	54.1	95.8	58.3
165	20. Ability to determine the approximate amount of profit that is likely	Dealers	20.8	16.7	20.8	20.8	20.8	16.7	12.5	12.5	12.5
		Trq. Dir.	25.0	20.8	20.8	25.0	20.8	20.8	16.7	16.7	20.8
		Ag. Ed. Res.	25.0	20.8	20.8	25.0	20.8	16.7	12.5	12.5	16.7
		Bus. Ed. Res.	20.8	12.5	25.0	20.8	20.8	20.8	20.8	12.5	20.8
		Total Jury	91.7	70.8	87.5	91.7	83.3	75.0	62.5	54.1	70.8
164	24. Understands the policies of his business (company)	Dealers	16.7	16.7	16.7	16.7	20.8	20.8	16.7	12.5	16.7
		Trq. Dir.	20.8	20.8	20.8	20.8	25.0	16.7	20.8	20.8	16.7
		Ag. Ed. Res.	16.7	25.0	25.0	16.7	20.8	25.0	20.8	12.5	25.0
		Bus. Ed. Res.	20.8	12.5	25.0	12.5	16.7	25.0	20.8	8.3	20.8
		Total Jury	75.0	75.0	87.5	66.7	83.3	87.5	79.1	50.0	79.1
162	9. Ability to determine the livestock (poultry) performance records to keep	Dealers	25.0	25.0	25.0	25.0	20.8	25.0	16.7	20.8	25.0
		Trq. Dir.	25.0	20.8	25.0	20.8	25.0	16.7	16.7	25.0	16.7
		Ag. Ed. Res.	20.8	12.5	20.8	25.0	25.0	16.7	4.1	16.7	12.5
		Bus. Ed. Res.	20.8	4.1	12.5	20.8	20.8	16.7	4.1	12.5	8.3
		Total Jury	91.7	62.5*	83.3	91.7	91.7	75.0	41.7	75.0	62.5
159	14. Ability to identify common livestock (poultry) diseases	Dealers	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	20.8
		Trq. Dir.	20.8	16.7	20.8	16.7	12.5	16.7	12.5	20.8	12.5
		Ag. Ed. Res.	20.8	12.5	20.8	20.8	20.8	16.7	8.3	25.0	12.5
		Bus. Ed. Res.	20.8	12.5	20.8	12.5	12.5	16.7	8.3	20.8	12.5
		Total Jury	87.5	66.7	87.5	75.0	66.7	75.0	54.1	91.7	58.3
158	27. Knowledge of the feed products of competitors	Dealers	12.5	16.7	16.7	12.5	8.3	12.5	12.5	8.3	12.5
		Irq. Dir.	25.0	20.8	20.8	25.0	16.7	20.8	20.8	25.0	12.5
		Ag. Ed. Res.	25.0	25.0	25.0	16.7	20.8	25.0	20.8	20.8	25.0
		Bus. Ed. Res.	16.7	16.7	20.8	16.7	12.5	20.8	25.0	12.5	16.7
		Total Jury	79.1	79.1	83.3	70.8	58.3	79.1	79.1	62.5	66.7

*X^2 score significant at the .05 level.

TABLE XVII--Continued

Competency Frequency	COMPETENCIES	Sub Jury	ACTIVITIES Assists producer 1 %	Assists dealers 2 %	Sells direct 3 %	Assists producer 4 %	Reports results 5 %	Sells over counter 6 %	Solicits dealers 7 %	Recognizes abnormalties 8 %	Assists dealers 9 %
156	33. Knowledge of feed mill operation	Dealers	25.0	25.0	25.0	25.0	20.8	25.0	20.8	20.8	25.0
		Trq. Dir.	20.8	20.8	16.7	16.7	12.5	16.7	20.8	8.3	12.5
		Aq. Ed. Res.	20.8	20.8	25.0	20.8	16.7	20.8	16.7	12.5	20.8
		Bus. Ed. Res.	12.5	16.7	20.8	8.3	4.1	16.7	16.7	8.3	12.5
		To[illegible] Jury	79.1	83.3	87.5	70.8	54.1	79.1	75.0	50.0	70.8
152	17. Ability to evaluate farmer's roughages, pasture, and grain resources	De[illegible]	20.8	20.8	20.8	20.8	16.7	20.8	12.5	20.8	16.7
		Trq. Dir.	20.8	16.7	20.8	20.8	16.7	16.7	16.7	16.7	16.7
		Aq. Ed. Res.	25.0	25.0	25.0	25.0	20.8	16.7	4.1	20.8	16.7
		Bus. Ed. Res.	20.8	16.7	20.8	20.8	8.3	8.3	4.1	12.5	8.3
		Total Jury	87.5	79.1	87.5	87.5	62.5	62.5	37.5	70.8	58.3
152	22. Ability to determine the repayment ability of the customer	Dealers	25.0	25.0	25.0	25.0	25.0	20.8	12.5	16.7	12.5
		Trq. Dir.	25.0	16.7	20.8	20.8	20.8	16.7	12.5	12.5	16.7
		Aq. Ed. Res.	25.0	20.8	20.8	25.0	20.8	16.7	12.5	12.5	20.8
		Bus. Ed. Res.	12.5	4.1	8.3	20.8	20.8	12.5	12.5	8.3	8.3
		Total Jury	87.5*	66.7*	75.0*	91.7	87.5	66.7	50.0	50.0	58.3
150	1. Knowledge of the physical make-up and digestive process of farm animals (birds)	Dealers	25.0	25.0	16.7	20.8	20.8	20.8	20.8	25.0	25.0
		Trq. Dir.	20.8	8.3	16.7	16.7	12.5	8.3	8.3	20.8	8.3
		Aq. Ed. Res.	25.0	16.7	20.8	25.0	16.7	16.7	4.1	25.0	12.5
		Bus. Ed. Res.	20.8	20.8	12.5	12.5	12.5	16.7	4.1	25.0	16.7
		Total Jury	91.7	70.8	66.7	75.0	62.5	62.5	37.5	95.8	62.5
149	35. Ability to write up and interpret the feeding results of his customers and convey them to management	Dealers	20.8	25.0	25.0	20.8	25.0	16.7	16.7	16.7	20.8
		Trq. Dir.	20.8	20.8	20.8	16.7	25.0	12.5	16.7	16.7	8.3
		Aq. Ed. Res.	12.5	20.8	16.7	16.7	25.0	12.5	16.7	4.1	20.8
		Bus. Ed. Res.	12.5	16.7	8.3	16.7	25.0	8.3	12.5	16.7	12.5
		Total Jury	66.7	83.3	70.8	70.8	100.0	50.0	62.5	54.1	62.5
148	13. Understands the place of sanitation in the livestock (poultry) operation	Dealers	20.8	20.8	16.7	20.8	16.7	16.7	16.7	16.7	16.7
		Trq. Dir.	25.0	16.7	25.0	25.0	25.0	20.8	12.5	25.0	12.5
		Aq. Ed. Res.	20.8	12.5	20.8	25.0	16.7	20.8	4.1	25.0	8.3
		Bus. Ed. Res.	20.8	8.3	16.7	16.7	12.5	12.5	4.1	20.8	4.1
		Total Jury	87.5	58.3	79.1	87.5	66.7	70.8	37.5	87.5	41.7
148	21. Ability to determine with the customer the amount of credit needed	Dealers	25.0	20.8	25.0	25.0	20.8	16.7	12.5	16.7	20.8
		Trq. Dir.	25.0	16.7	20.8	20.8	20.8	16.7	12.5	8.3	16.7
		Aq. Ed. Res.	25.0	16.7	20.8	25.0	20.8	16.7	8.3	12.5	20.8
		Bus. Ed. Res.	8.3	4.1	12.5	20.8	20.8	16.7	12.5	4.1	4.1
		Total Jury	83.3*	58.3	79.1	91.7	83.3	66.7	45.8	41.7	66.7
148	40. Understands the promotional techniques for increasing feed sales	Dealers	20.8	25.0	25.0	16.7	16.7	20.8	25.0	16.7	25.0
		Trq. Dir.	12.5	16.7	12.5	12.5	16.7	12.5	12.5	12.5	20.8
		Aq. Ed. Res.	16.7	25.0	16.7	12.5	16.7	20.8	20.8	12.5	25.0
		Bus. Ed. Res.	12.5	16.7	25.0	8.3	4.1	16.7	20.8	4.1	20.8
		Total Jury	62.5	83.3	79.1	50.0	54.1	70.8	79.1	45.8	91.7
147	37. Ability to express feeding and nutrition information to groups	Dealers	20.8	25.0	25.0	16.7	16.7	16.7	20.8	16.7	25.0
		Trq. Dir.	20.8	20.8	12.5	16.7	16.7	8.3	16.7	12.5	16.7
		Aq. Ed. Res.	16.7	16.7	12.5	16.7	8.3	8.3	8.3	12.5	25.0
		Bus. Ed. Res.	20.8	20.8	16.7	20.8	12.5	16.7	16.7	16.7	20.8
		Total Jury	79.1	83.3	66.7	70.8	54.1	50.0	62.5	58.3	87.5

*X^2 score significant at the .05 level.

**X^2 score significant at the .01 level.

TABLE XVII--Continued

Competency Frequency	COMPETENCIES		ACTIVITIES								
			Assists producer	Assists dealers	Sells direct	Assists producer	Reports results	Sells over counter	Solicits dealers	Recognizes abnormalties	Assists dealers
			1	2	3	4	5	6	7	8	9
		Sub Jury	%	%	%	%	%	%	%	%	%
145	7. Understands the factors to consider in selecting specific animals (birds)	Dealers	25.0	25.0	25.0	25.0	16.7	20.8	16.7	25.0	20.8
		Trq. Dir.	20.8	12.5	20.8	20.8	12.5	16.7	16.7	16.7	16.7
		Aq. Ed. Res.	16.7	12.5	16.7	20.8	16.7	12.5	4.1	16.7	8.3
		Bus. Ed. Res.	16.7	20.8	8.3	16.7	12.5	8.3	12.5	20.8	8.3
		Total Jury	79.1	70.8	70.8	83.3	58.3	58.3	50.0	79.1	54.1
145	18. Knowledge of livestock prices and price trends	Dealers	16.7	16.7	16.7	20.8	16.7	20.8	12.5	16.7	16.7
		Trq. Dir.	20.8	20.8	16.7	16.7	16.7	16.7	16.7	12.5	20.8
		Aq. Ed. Res.	20.8	16.7	20.8	25.0	16.7	16.7	8.3	12.5	12.5
		Bus. Ed. Res.	20.8	12.5	20.8	16.7	8.3	16.7	16.7	8.3	20.8
		Total Jury	79.1	66.7	75.0	79.1	58.3	70.8	54.1	50.0	70.8
145	34. Knowledge of transportation and delivery procedures	Dealers	25.0	25.0	25.0	25.0	20.8	25.0	20.8	20.8	25.0
		Trq. Dir.	16.7	16.7	16.7	16.7	12.5	12.5	16.7	8.3	12.5
		Aq. Ed. Res.	12.5	16.7	25.0	8.3	8.3	25.0	25.0	4.1	20.8
		Bus. Ed. Res.	8.3	20.8	20.8	4.1	8.3	16.7	20.8	4.1	12.5
		Total Jury	62.5	79.1	87.5	54.1*	50.0	79.1	83.3	37.5	70.8
144	12. Understands the influence of equipment upon growth and the rate of gain	Dealers	20.8	16.7	16.7	20.8	16.7	16.7	16.7	16.7	16.7
		Trq. Dir.	25.0	16.7	25.0	25.0	20.8	20.8	12.5	25.0	12.5
		Aq. Ed. Res.	20.8	12.5	20.8	25.0	16.7	20.8	4.1	25.0	8.3
		Bus. Ed. Res.	16.7	12.5	8.3	16.7	12.5	8.3	4.1	16.7	8.3
		Total Jury	83.3	58.3	70.8	87.5	66.7	66.7	37.5	83.3	45.8
144	11. Understands the influence of housing upon the growth and rate of gain	Dealers	20.8	16.7	16.7	20.8	16.7	16.7	16.7	16.7	16.7
		Trq. Dir.	25.0	16.7	25.0	25.0	20.8	20.8	12.5	25.0	12.5
		Aq. Ed. Res.	20.8	12.5	20.8	25.0	16.7	20.8	4.1	25.0	12.5
		Bus. Ed. Res.	16.7	12.5	8.3	12.5	12.5	8.3	4.1	16.7	8.3
		Total Jury	83.3	58.3	70.8	83.3	66.7	66.7	37.5	83.3	50.0
136	28. Ability to fill out company invoices and sales contracts	Dealers	20.8	20.8	20.8	12.5	12.5	25.0	20.8	12.5	20.8
		Trq. Dir.	25.0	16.7	25.0	16.7	16.7	16.7	20.8	8.3	8.3
		Aq. Ed. Res.	16.7	20.8	25.0	12.5	12.5	25.0	20.8	4.1	20.8
		Bus. Ed. Res.	4.1	4.1	20.8	4.1	4.1	20.8	12.5	4.1	12.5
		Total Jury	66.7*	62.5	91.7	45.8	45.8	87.5	75.0	29.7	62.5
130	6. Knowledge of the agricultural practices used in the community	Dealers	12.5	16.7	12.5	12.5	12.5	12.5	12.5	12.5	12.5
		Trq. Dir.	16.7	12.5	16.7	16.7	12.5	12.5	12.5	16.7	12.5
		Aq. Ed. Res.	20.8	20.8	16.7	20.8	25.0	20.8	8.3	20.8	20.8
		Bus. Ed. Res.	12.5	12.5	16.7	12.5	12.5	16.7	8.3	12.5	16.7
		Total Jury	62.5	62.5	62.5	62.5	62.5	62.5	41.7	62.5	62.5
126	10. Understands the influence of heredity on the rate of gain	Dealers	25.0	25.0	20.8	25.0	25.0	20.8	16.7	20.8	20.8
		Trq. Dir.	20.8	4.1	16.7	16.7	12.5	8.3	4.1	12.5	8.3
		Aq. Ed. Res.	20.8	12.5	12.5	16.7	16.7	8.3	4.1	12.5	12.5
		Bus. Ed. Res.	16.7	12.5	8.3	12.5	12.5	12.5	4.1	16.7	8.3
		Total Jury	83.3	54.1*	58.3	70.8	66.7	50.0	29.1	62.5	50.0
123	16. Ability to fit animals for show or sale	Dealers	20.8	16.7	16.7	20.8	16.7	20.8	16.7	20.8	16.7
		Trq. Dir.	20.8	16.7	20.8	12.5	8.3	8.3	12.5	8.3	8.3
		Aq. Ed. Res.	16.7	12.5	16.7	16.7	12.5	12.5	4.1	12.5	12.5
		Bus. Ed. Res.	16.7	16.7	16.7	8.3	12.5	12.5	8.3	8.3	16.7
		Total Jury	75.0	62.5	66.7	58.3	50.0	54.1	41.7	50.0	54.1

*X^2 score significant at the .05 level.

TABLE XVII--Continued

Competency Frequency	COMPETENCIES	Sub Jury	ACTIVITIES Assists producer 1 %	Assists dealer 2 %	Sells direct 3 %	Assists producer 4 %	Reports results 5 %	Sells over counter 6 %	Solicits dealers 7 %	Recognizes abnormalties 8 %	Assists dealers 9 %
122	39. Understands the problems of feed dealers in the community	Dealers	12.5	12.5	16.7	8.3	16.7	12.5	16.7	8.3	16.7
		Trq. Dir.	12.5	16.7	12.5	12.5	16.7	8.3	20.8	12.5	20.8
		Aq. Ed. Res.	12.5	20.8	16.7	12.5	16.7	16.7	25.0	12.5	25.0
		Bus. Ed. Res.	4.1	20.8	12.5	4.1	4.1	4.1	16.7	8.3	20.8
		Total Jury	41.7	70.8	58.3	37.5	54.1	41.7	79.1	41.7	83.3
118	19. Knowledge of marketing channels for livestock (poultry) and their products	Dealers	12.5	16.7	16.7	16.7	16.7	16.7	12.5	16.7	16.7
		Trq. Dir.	16.7	16.7	16.7	12.5	16.7	16.7	12.5	8.3	16.7
		Aq. Ed. Res.	20.8	8.3	16.7	25.0	20.8	16.7	4.1	12.5	12.5
		Bus. Ed. Res.	8.3	8.3	8.3	16.7	8.3	8.3	4.1	8.3	8.3
		Total Jury	58.3	50.0	58.3	70.8	62.5	58.3	33.3	45.8	54.1
109	8. Ability to determine the grade of the animals (birds	Dealers	16.7	20.8	12.5	20.8	16.7	8.3	8.3	16.7	16.7
		Trq. Dir.	12.5	8.3	12.5	12.5	8.3	8.3	8.3	12.5	8.3
		Aq. Ed. Res.	12.5	8.3	8.3	20.8	12.5	8.3	4.1	8.3	8.3
		Bus. Ed. Res.	20.8	20.8	16.7	4.1	20.8	12.5	8.3	12.5	16.7
		Total Jury	62.5	58.3	50.0	58.3	58.3	37.5	29.1	50.0	50.0
107	23. Knowledge of the methods used in collecting bills	Dealers	12.5	8.3	12.5	16.7	20.8	8.3	8.3	8.3	8.3
		Trq. Dir.	16.7	16.7	20.8	16.7	16.7	16.7	16.7	8.3	20.8
		Aq. Ed. Res.	4.1	20.8	20.8	12.5	12.5	20.8	12.5	4.1	16.7
		Bus. Ed. Res.	0.0	4.1	12.5	8.3	4.1	16.7	16.7	4.1	0.0
		Total Jury	33.3*	50.0	66.7	54.1	54.1	62.5	54.1	25.0	45.8*
89	38. Understands the criteria for appraising prospective feed dealers	Dealers	8.3	8.3	8.3	8.3	8.3	8.3	20.8	8.3	16.7
		Trq. Dir.	12.5	12.5	12.5	12.5	12.5	8.3	20.8	12.5	16.7
		Aq. Ed. Res.	8.3	12.5	8.3	8.3	8.3	8.3	25.0	8.3	20.8
		Bus. Ed. Res.	0.0	12.5	4.1	0.0	0.0	0.0	16.7	0.0	12.5
		Total Jury	29.1	45.8	33.3	29.1	29.1	25.0	83.3	29.1	66.7

*X^2 score significant at the .05 level.

APPENDIX D

TABLE XVIII

IMPORTANCE OF SIX POSSIBLE AND APPROPRIATE LOCI WHERE FORTY COMPETENCIES COULD BE TAUGHT AS RATED BY A JURY OF TWENTY-FOUR EXPERTS

Competency Frequency	COMPETENCY		POSSIBLE						APPROPRIATE					
			High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 year College	Adult	Dealer	On Job
		Sub Jury	%	%	%	%	%	%	%	%	%	%	%	%
201	25. Thoroughly understands his company's feed products	Dealers	.0	4.1	4.1	4.1	25.0	16.7	.0	4.1	4.1	4.1	25.0	16.7
		Trg. Dir.	.0	.0	.0	4.1	25.0	16.7	.0	.0	.0	.0	25.0	12.5
		Ag. Ed. Res.	4.1	4.1	8.3	4.1	25.0	25.0	4.1	4.1	4.1	4.1	25.0	16.7
		Bus. Ed. Res.	8.3	8.3	16.7	12.5	20.8	20.8	.0	.0	8.3	.0	20.8	20.8
		Total Jury	12.5	16.7	29.1	25.0	95.8	79.1	4.1	8.2	16.7	8.3	95.8	66.7
185	29. Understands the importance of personal sales traits and a pleasing personality	Dealers	8.3	8.3	16.7	16.7	25.0	20.8	8.3	8.3	16.7	16.7	20.8	20.8
		Trg. Dir.	12.5	16.7	16.7	12.5	25.0	16.7	4.1	8.3	12.5	8.3	25.0	8.3
		Ag. Ed. Res.	25.0	25.0	25.0	25.0	25.0	20.8	20.8	25.0	12.5	12.5	20.8	16.7
		Bus. Ed. Res.	20.8	20.8	16.7	20.8	25.0	25.0	16.7	12.5	12.5	16.7	20.8	20.8
		Total Jury	66.7	70.8	75.0	75.0	100.0	83.3	50.0	54.1	54.1	54.1	87.5	66.7
185	30. Ability to greet customers and study their needs	Dealers	8.3	8.3	16.7	16.7	25.0	20.8	8.3	8.3	16.7	16.7	20.8	20.8
		Irg. Dir.	4.1	12.5	8.3	8.3	25.0	25.0	.0	8.3	8.3	4.1	25.0	20.8
		Ag. Bd. Res.	25.0	25.0	20.8	20.8	25.0	20.8	20.8	20.8	12.5	8.3	16.7	8.3
		Bus. Ed. Res.	20.8	20.8	12.5	20.8	25.0	16.7	16.7	20.8	12.5	20.8	25.0	16.7
		Total Jury	54.1*	66.7	58.3	66.7	100.0	83.3	45.8*	58.3	50.0	50.0	87.5	66.7
184	5. Understands feeding practices and programs used in the community	Dealers	12.5	12.5	8.3	16.7	12.5	20.8	4.1	4.1	4.1	16.7	8.3	12.5
		Trg. Dir.	12.5	12.5	8.3	16.7	25.0	20.8	4.1	8.3	4.1	12.5	20.8	20.8
		Ag. Ed. Res.	25.0	25.0	12.5	25.0	20.8	25.0	25.0	20.8	8.3	18.7	20.8	16.7
		Bus. Ed. Res.	20.8	20.8	8.3	16.7	20.8	20.8	12.5	8.3	.0	16.7	20.8	20.8
		Total Jury	66.7	66.7	37.5	75.0	79.1	87.5	45.8*	41.7	16.7	62.5	70.8	70.8

*X^2 score significant at the .05 level.

TABLE XVIII--Continued

Competency Frequency	COMPETENCY		POSSIBLE						APPROPRIATE					
			High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 Year College	Adult	Dealer	On Job
		Sub Jury	%	%	%	%	%	%	%	%	%	%	%	%
182	31. Ability to classify and cope with different types of customers	Dealers	8.3	8.3	16.7	16.7	25.0	16.7	8.3	8.3	16.7	16.7	20.8	16.7
		Trg. Dir.	.0	8.3	8.3	4.1	20.8	25.0	.0	8.3	8.3	4.1	25.0	20.8
		Ag. Ed. Res.	20.8	25.0	20.8	20.8	25.0	20.8	20.8	20.8	12.5	8.3	16.7	16.7
		Bus. Ed. Res.	20.8	20.8	16.7	20.8	20.8	20.8	16.7	20.8	12.5	20.8	20.8	16.7
		Total Jury	*50.0	*62.5	62.5	62.5	91.7	83.3	*45.8	58.3	50.0	50.0	83.3	70.8
179	32. Ability to use suggestive selling and to close the sale	Dealers	8.3	8.3	16.7	16.7	25.0	20.8	8.3	8.3	16.7	16.7	20.8	20.8
		Trg. Dir.	4.1	12.5	12.5	8.3	20.8	20.8	4.1	12.5	12.5	8.3	25.0	16.7
		Ag. Ed. Res.	25.0	25.0	20.8	20.8	25.0	20.8	16.7	20.8	12.5	12.5	20.8	16.7
		Bus. Ed. Res.	20.8	25.0	20.8	25.0	25.0	20.8	12.5	16.7	12.5	25.0	25.0	16.7
		Total Jury	*58.3	*70.8	70.8	70.8	95.8	83.3	41.7	58.3	54.1	62.5	91.7	70.8
178	36. Understands the research findings of livestock (poultry) feeding trials	Dealers	8.3	8.3	12.5	12.5	22.0	25.0	8.3	8.3	12.5	12.5	25.0	16.7
		Trg. Dir.	8.3	8.3	12.5	12.5	25.0	20.8	4.1	8.3	12.5	4.1	25.0	16.7
		Ag. Ed. Res.	16.7	25.0	25.0	20.8	25.0	12.5	12.5	25.0	25.0	16.7	12.5	12.5
		Bus. Ed. Res.	12.5	16.7	25.0	16.7	25.0	20.8	4.1	8.3	20.8	16.7	16.7	12.5
		Total Jury	45.8	58.3	*75.0	62.5	100.0	79.1	29.1	*50.0	70.8	50.0	79.1	58.3
177	4. Ability to determine rations for specific livestock (poultry) uses	Dealers	16.7	16.7	25.0	16.7	20.8	16.7	16.7	16.7	20.8	16.7	20.8	12.5
		Trg. Dir.	12.5	12.5	25.0	16.7	25.0	20.8	12.5	8.3	20.8	12.5	25.0	20.8
		Ag. Ed. Res.	25.0	25.0	25.0	25.0	25.0	20.8	16.7	16.7	20.8	12.5	16.7	8.3
		Bus. Ed. Res.	20.8	25.0	20.8	25.0	16.7	12.5	12.5	16.7	16.7	12.5	12.5	4.1
		Total Jury	75.0	79.1	95.8	83.3	87.5	70.8	58.3	58.3	79.1	54.1	75.0	45.8

*^{2} score significant at the .05 level.

TABLE XVIII--Continued

Competency Frequency	COMPETENCY	Sub Jury	POSSIBLE						APPROPRIATE					
			High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 year College	Adult	Dealer	On Job
			%	%	%	%	%	%	%	%	%	%	%	%
174	2. Understands the composition of farm grains, roughages, and supplements	Dealers	16.7	20.8	25.0	16.7	16.7	16.7	16.7	16.7	20.8	12.5	16.7	12.5
		Trg. Dir.	20.8	20.8	25.0	20.8	25.0	20.8	8.3	8.3	20.8	16.7	20.8	16.7
		Ag. Ed. Res.	25.0	25.0	25.0	25.0	20.8	16.7	25.0	25.0	20.8	12.5	8.3	4.1
		Bus. Ed. Res.	20.8	20.8	25.0	25.0	16.7	12.5	12.5	25.0	12.5	20.8	8.3	8.3
		Total Jury	83.3	87.5	100.0	87.5	79.1	66.7	62.5	75.0	75.0	62.5	54.1	41.7
171	26. Understands other products sold by his business (company)	Dealers	4.1	8.3	8.3	8.3	20.8	20.8	4.1	8.3	8.3	8.3	20.8	20.8
		Trg. Dir.	.0	4.1	.0	.0	20.8	16.7	.0	4.1	.0	.0	20.8	12.5
		Ag. Ed. Res.	4.1	4.1	8.3	4.1	25.0	25.0	.0	4.1	4.1	4.1	25.0	16.7
		Bus. Ed. Res.	8.3	8.3	12.5	12.5	20.8	20.8	.0	.0	4.1	.0	20.8	20.8
		Total Jury	16.7	25.0	29.1	25.0	87.5	83.3	4.1	16.7	16.7	12.5	87.5	70.8
168	3. Understands the various methods of preparing livestock (poultry) feeds, i.e., grinding, pelleting, etc.	Dealers	12.5	16.7	20.8	16.7	20.8	16.7	8.3	8.3	12.5	12.5	20.8	16.7
		Trg. Dir.	4.1	12.5	20.8	16.7	25.0	16.7	4.1	8.3	12.5	8.3	25.0	12.5
		Ag. Ed. Res.	25.0	25.0	25.0	25.0	25.0	20.8	20.8	25.0	16.7	16.7	20.8	8.3
		Bus. Ed. Res.	16.7	16.7	16.7	16.7	20.8	20.8	8.3	12.5	12.5	16.7	16.7	12.5
		Total Jury	58.3	70.8	83.3	75.0	91.7	75.0	41.7	54.1	54.1	54.1	83.3	50.0
165	15. Understands the control of livestock (poultry) pests and parasites	Dealers	20.8	20.8	25.0	20.8	25.0	20.8	16.7	16.7	25.0	16.7	20.8	20.8
		Trg. Dir.	20.8	16.7	25.0	20.8	25.0	20.8	16.7	16.7	20.8	20.8	16.7	20.8
		Ag. Ed. Res.	25.0	25.0	25.0	25.0	20.8	16.7	16.7	25.0	16.7	20.8	12.5	8.3
		Bus. Ed. Res.	12.5	16.7	16.7	16.7	20.8	16.7	8.3	12.5	16.7	8.3	16.7	8.3
		Total Jury	79.1	79.1	91.7	83.3	91.7	75.0	58.3	70.8	79.1	66.7	66.7	58.3

TABLE XVIII--Continued

Competency Frequency	COMPETENCY		POSSIBLE						APPROPRIATE					
		Sub Jury	High School %	Post High School %	4 year College %	Adult %	Dealer %	On Job %	High School %	Post High School %	4 year College %	Adult %	Dealer %	On Job %
165	20. Ability to determine the approximate amount of profit that is likely	Dealers	8.3	16.7	12.5	12.5	16.7	20.8	8.3	12.5	12.5	12.5	16.7	12.5
		Trg. Dir.	8.3	12.5	20.8	16.7	20.8	25.0	4.1	8.3	12.5	12.5	16.7	12.5
		Ag. Ed. Res.	25.0	25.0	25.0	25.0	20.8	16.7	16.7	25.0	20.8	16.7	8.3	8.3
		Bus. Ed. Res.	25.0	25.0	20.8	25.0	25.0	20.8	16.7	20.8	16.7	20.8	20.8	4.1
		Total Jury	66.7**	79.1	79.1	79.1	83.3	83.3	45.8	66.7	62.5	62.5	62.5	50.0
164	24. Understands the policies of his business (company)	Dealers	0.0	4.1	4.1	4.1	20.8	20.8	0.0	4.1	4.1	4.1	20.8	20.8
		Trg. Dir.	0.0	0.0	0.0	4.1	25.0	16.7	0.0	0.0	0.0	0.0	25.0	12.5
		Ag. Ed. Res.	8.3	8.3	8.3	8.3	25.0	20.0	8.3	4.1	4.1	4.1	25.0	12.5
		Bus. Ed. Res.	16.7	16.7	20.8	16.7	20.8	25.0	4.1	4.1	12.5	4.1	20.8	25.0
		Total Jury	25.0*	29.1	29.1	33.3	91.7	83.3	12.5	12.5	20.8	12.5	91.7	70.8
162	9. Ability to determine the livestock (poultry) performance records to keep	Dealers	20.8	20.8	20.8	16.7	20.8	20.8	12.5	16.7	16.7	16.7	20.8	20.8
		Trg. Dir.	16.7	16.7	25.0	16.7	25.0	16.7	8.3	12.5	12.5	12.5	25.0	16.7
		Ag. Ed. Res.	25.0	25.0	25.0	25.0	16.7	16.7	16.7	25.0	12.5	12.5	12.5	4.1
		Bus. Ed. Res.	25.0	25.0	16.7	20.8	20.8	16.7	20.8	12.5	8.3	20.8	12.5	12.5
		Total Jury	83.3	87.5	87.5	79.1	83.3	70.8	68.3	66.7	50.0	62.5	70.8	54.1
159	14. Ability to identify common livestock (poultry) diseases	Dealers	16.7	16.7	25.0	20.8	25.0	20.8	16.7	16.7	25.0	16.7	20.8	16.7
		Trg. Dir.	20.8	16.7	20.8	20.8	20.8	16.7	12.5	16.7	16.7	16.7	12.5	12.5
		Ag. Ed. Res.	25.0	25.0	25.0	25.0	20.8	16.7	20.8	25.0	16.7	20.8	12.5	8.3
		Bus. Ed. Res.	12.5	20.8	20.8	16.7	20.8	12.5	8.3	12.5	20.8	4.1	12.5	4.1
		Total Jury	75.0	79.1	91.7	83.3	87.5	66.7	54.1	70.8	79.1	58.3	58.3	41.7

*X^2 score significant at the .05 level.

**X^2 score significant at the .01 level.

TABLE XVIII--Continued

Competency Frequency	COMPETENCY	Sub Jury	POSSIBLE						APPROPRIATE					
			High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 year College	Adult	Dealer	On Job
			%	%	%	%	%	%	%	%	%	%	%	%
158	27. Knowledge of the feed products of competitors	Dealers	4.1	4.1	4.1	4.1	12.5	12.5	0.0	4.1	4.1	4.1	12.5	12.5
		Trg. Dir.	0.0	0.0	0.0	4.1	25.0	20.8	0.0	0.0	0.0	0.0	25.0	12.3
		Ag. Ed. Res.	8.3	8.3	12.5	8.3	25.0	25.0	8.3	8.3	8.3	8.3	25.0	16.7
		Bus. Ed. Res.	0.0	0.0	8.3	4.1	20.8	25.0	0.0	0.0	4.1	0.0	20.8	25.0
		Total Jury	12.5	12.5	25.0	20.8	83.3	83.3	8.3	12.5	16.7	12.5	79.1	66.7
156	33. Knowledge of feed mill operation	Dealers	4.1	4.1	4.1	4.1	20.8	25.0	4.1	4.1	4.1	4.1	20.8	25.0
		Trg. Dir.	12.5	16.7	16.7	12.5	25.0	16.7	8.3	12.5	16.7	12.5	25.0	12.5
		Ag. Ed. Res.	20.8	20.8	20.8	20.8	25.0	25.0	8.3	20.8	16.7	12.5	25.0	20.8
		Bus. Ed. Res.	20.8	16.7	12.5	16.7	20.8	20.8	12.5	8.3	4.1	12.5	12.5	20.8
		Total Jury	58.3	58.3	54.1	54.1	91.7	87.5	33.3	45.8	41.7	41.7	83.3	79.1
152	17. Ability to evaluate farmer's roughages, pasture, and grain resources	Dealers	16.7	16.7	20.8	16.7	20.8	16.7	12.5	12.5	20.8	12.5	16.7	16.7
		Trg. Dir.	20.8	20.8	20.8	20.8	20.8	16.7	8.3	8.3	12.5	12.5	20.8	8.3
		Ag. Ed. Res.	25.0	25.0	25.0	25.0	20.8	16.7	5.0	25.0	16.7	20.8	12.5	4.1
		Bus. Ed. Res.	12.5	12.5	16.7	16.7	12.5	8.3	8.3	8.3	16.7	12.5	4.1	4.1
		Total Jury	75.0	75.0	83.3	79.1	75.0	58.3	54.1	54.1	66.7	58.3	54.1	33.3
152	22. Ability to determine the repayment ability of the customer	Dealers	8.3	12.5	12.5	8.3	20.8	20.8	8.3	12.5	8.3	8.3	20.8	16.7
		Trg. Dir.	8.3	12.5	16.7	16.7	20.8	25.0	4.1	8.3	12.5	12.5	20.8	12.5
		Ag. Ed. Res.	16.7	25.0	25.0	25.0	25.0	16.7	12.5	16.7	16.7	12.5	25.0	12.5
		Bus. Ed. Res.	16.7	20.8	16.7	20.8	20.8	25.0	12.5	16.7	12.5	20.8	16.7	16.7
		Total Jury	50.0	70.8	70.8	70.8	87.5	87.5	37.5	54.1	50.0	54.1	83.3	58.3

TABLE XVIII--Continued

Competency Frequency	COMPETENCY		POSSIBLE						APPROPRIATE					
			High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 year College	Adult	Dealer	On Job
		Sub Jury	%	%	%	%	%	%	%	%	%	%	%	%
150	1. Knowledge of the physical make-up and digestive process of farm animals (birds)	Dealers	16.7	16.7	25.0	20.8	20.8	20.8	12.5	12.5	20.8	16.7	20.8	16.7
		Trg. Dir.	16.7	16.7	20.8	20.8	25.0	20.8	8.3	8.3	16.7	12.5	20.8	20.8
		Ag. Ed. Res.	25.0	25.0	25.0	25.0	20.8	20.8	25.0	25.0	20.8	16.7	8.3	4.1
		Bus. Ed. Res.	20.8	25.0	25.0	16.7	16.7	12.5	12.5	25.0	20.8	8.3	4.1	4.1
		Total Jury	79.2	83.3	95.8	83.3	83.3	75.0	58.3	70.8*	79.1	54.1	54.1*	45.8*
149	35. Ability to write up and interpret the feeding results of his customers and convey them to management	Dealers	4.1	4.1	8.3	4.1	25.0	20.8	4.1	4.1	8.3	4.1	25.0	20.8
		Trg. Dir.	4.1	8.3	12.5	8.3	25.0	25.0	4.1	8.3	4.1	4.1	20.8	20.8
		Ag. Ed. Res.	12.5	20.8	16.7	12.5	25.0	20.8	8.3	16.7	8.3	8.3	25.0	20.8
		Bus. Ed. Res.	12.5	16.7	16.7	20.8	25.0	16.7	0.0	12.5	16.7	8.3	20.8	12.5
		Total Jury	33.3	50.0	54.1	45.8	100.0	83.3	16.7	41.7	37.5	25.0	91.7	75.0
148	13. Understands the place of sanitation in the livestock (poultry) operation	Dealers	16.7	16.7	16.7	16.7	20.8	16.7	12.5	12.5	16.7	16.7	20.8	12.5
		Trg. Dir.	20.8	20.8	25.0	20.8	25.0	20.8	16.7	16.7	20.8	20.8	20.8	16.7
		Ag. Ed. Res.	20.8	25.0	25.0	25.0	20.8	20.8	20.8	25.0	12.5	16.7	12.5	8.3
		Bus. Ed. Res.	16.7	25.0	20.8	16.7	12.5	12.5	12.5	25.0	16.7	16.7	4.1	4.1
		Total Jury	75.0	87.5	87.5	79.1	79.1	70.8	62.5	79.1	66.7	70.8	58.3	41.7
148	21. Ability to determine with the customer the amount of credit needed	Dealers	8.3	12.5	12.5	12.5	16.7	20.8	8.3	12.5	12.5	8.3	16.7	12.5
		Trg. Dir.	8.3	12.5	16.7	16.7	20.8	25.0	4.1	8.3	12.5	12.5	20.8	12.5
		Ag. Ed. Res.	20.8	25.0	25.0	25.0	20.8	12.5	16.7	16.7	16.7	12.5	20.8	8.3
		Bus. Ed. Res.	20.8	20.8	16.7	20.8	20.8	20.8	16.7	16.7	12.5	20.8	16.7	16.7
		Total Jury	58.3	70.8	70.8	75.0	79.1	79.1	45.8	54.1	54.1	54.1	75.0	50.0

TABLE XVIII--Continued

Competency Frequency	COMPETENCY	Sub Jury	POSSIBLE						APPROPRIATE					
			High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 year College	Adult	Dealer	On Job
			%	%	%	%	%	%	%	%	%	%	%	%
148	40. Understands the promotional techniques for increasing feed sales	Dealers	4.1	4.1	8.3	4.1	25.0	25.0	4.1	4.1	8.3	4.1	25.0	20.8
		Trg. Dir.	4.1	8.3	20.8	8.3	25.0	20.8	0.0	4.1	12.5	8.3	20.8	12.5
		Ag. Ed. Res.	8.3	25.0	20.8	20.8	25.0	16.7	8.3	16.7	12.5	8.3	25.0	8.3
		Bus. Ed. Res.	16.7	20.8	20.8	20.8	20.8	16.7	15.5	20.8	20.8	12.5	20.8	8.3
		Total Jury	33.3	58.3*	70.8	54.1*	95.8	79.1	25.0	45.8*	54.1	37.5	87.5	50.0
147	37. Ability to express feeding and nutrition information to groups	Dealers	8.3	8.3	12.5	12.5	20.8	20.8	8.3	8.3	12.5	12.5	20.8	20.8
		Trg. Dir.	8.3	8.3	12.5	4.1	25.0	25.0	4.1	4.1	12.5	4.1	25.0	16.7
		Ag. Ed. Res.	8.3	25.0	25.0	25.0	25.0	8.3	8.3	25.0	16.7	12.5	20.8	8.3
		Bus. Ed. Res.	12.5	20.8	16.7	16.7	20.8	12.5	8.3	16.7	20.8	16.7	12.5	8.3
		Total Jury	37.5	58.3	66.7	58.3*	91.7	66.7	29.1	54.1*	62.5	45.8	79.1	54.1
145	7. Understands the factors to consider in selecting specific animals (birds)	Dealers	16.7	16.7	20.8	16.7	16.7	16.7	12.5	12.5	16.7	16.7	16.7	16.7
		Trg. Dir.	20.8	20.8	20.8	20.8	20.8	16.7	8.3	12.5	12.5	12.5	16.7	16.7
		Ag. Ed. Res.	20.8	20.8	20.8	20.8	8.3	16.7	20.8	20.8	12.5	8.3	4.1	4.1
		Bus. Ed. Res.	20.8	16.7	16.7	16.7	16.7	12.5	16.7	16.7	12.5	12.5	8.3	8.3
		Total Jury	79.1	75.0	79.1	75.0	62.5	62.5	58.3	62.5	54.1	50.0	45.8	45.8
145	18. Knowledge of livestock prices and price trends	Dealers	8.3	12.5	12.5	12.5	12.5	20.8	4.1	8.3	12.5	12.5	12.5	16.7
		Trg. Dir.	12.5	12.5	16.7	16.7	16.7	20.8	4.1	8.3	16.7	12.5	12.5	12.5
		Ag. Ed. Res.	25.0	25.0	25.0	25.0	16.7	8.3	20.8	25.0	20.8	16.7	8.3	4.1
		Bus. Ed. Res.	20.8	16.7	16.7	16.7	16.7	20.8	4.1	12.5	12.5	16.7	12.5	8.3
		Total Jury	62.5	66.7	70.8	70.8	62.5	70.8	33.3*	54.1	62.5	58.3	45.8	41.7

*χ^2 score significant at the .05 level.

TABLE XVIII--Continued

Competency Frequency	COMPETENCY	Sub Jury	POSSIBLE						APPROPRIATE					
			High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 year College	Adult	Dealer	On Job
			%	%	%	%	%	%	%	%	%	%	%	%
145	34. Knowledge of transportation and delivery procedures	Dealers	4.1	4.1	4.1	4.1	16.7	25.0	4.1	4.1	4.1	4.1	16.7	25.0
		Trg. Dir.	4.1	12.5	4.1	4.1	25.0	20.8	4.1	8.3	4.1	4.1	25.0	16.7
		Ag. Ed. Res.	20.8	20.8	20.8	20.8	25.0	25.0	12.5	16.7	12.5	12.5	20.8	25.0
		Bus. Ed. Res.	20.8	16.7	12.5	16.7	20.8	20.8	16.7	8.3	4.1	12.5	16.7	20.8
		Total Jury	50.0*	54.1	41.7	45.8*	87.5	91.7	37.5	37.5	25.0	33.3	79.1	87.5
144	12. Understands the influence of equipment upon growth and the rate of gain	Dealer	16.7	16.7	20.8	16.7	20.8	16.7	12.5	12.5	16.7	16.7	20.8	12.5
		Trg. Dir.	20.8	20.8	25.0	20.8	25.0	16.7	16.7	16.7	20.8	20.8	20.8	16.7
		Ag. Ed. Res.	20.8	25.0	25.0	25.0	20.8	20.8	20.8	25.0	12.5	16.7	12.5	8.3
		Bus. Ed. Res.	16.7	16.7	12.5	16.7	12.5	12.5	4.1	8.3	8.3	16.7	4.1	8.3
		Total Jury	75.0	79.1	79.1	79.1	79.1	66.7	54.1	62.5	58.3	70.8	62.5	45.8
144	11. Understands the influence of housing upon the growth and rate of gain	Dealers	16.7	16.7	16.7	16.7	20.8	16.7	12.5	12.5	16.7	16.7	20.8	12.5
		Trg. Dir.	20.8	20.8	25.0	20.8	25.0	16.7	16.7	16.7	20.8	20.8	20.8	16.7
		Ag. Ed. Res.	20.8	25.0	25.0	25.0	20.8	20.8	20.8	25.0	12.5	16.7	12.5	8.3
		Bus. Ed. Res.	16.7	20.8	12.5	16.7	12.5	12.5	8.3	8.3	8.3	12.5	8.3	8.3
		Total Jury	75.0	79.1	79.1	79.1	79.1	66.7	58.3	62.5	58.3	66.7	62.5	45.8
136	28. Ability to fill out company invoices and sales contracts	Dealers	0.0	4.1	4.1	4.1	25.0	25.0	0.0	4.1	4.1	4.1	25.0	25.0
		Irg. Dir.	0.0	0.0	0.0	0.0	25.0	20.8	0.0	0.0	0.0	0.0	25.0	12.5
		Ag. Ed. Res.	8.3	16.7	12.5	8.3	25.0	25.0	4.1	16.7	8.3	4.1	25.0	16.7
		Bus. Ed. Res.	4.1	4.1	4.1	4.1	20.8	20.8	4.1	4.1	0.0	4.1	20.8	20.8
		Total Jury	12.5	25.0*	20.8	16.7	95.8	91.7	8.3	25.0*	12.5	12.5	95.8	75.0

*X^2 score significant at the .05 level.

TABLE XVIII--Continued

Competency Frequency	COMPETENCY	Sub Jury	POSSIBLE						APPROPRIATE					
			High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 year College	Adult	Dealer	On Job
			%	%	%	%	%	%	%	%	%	%	%	%
130	6. Knowledge of the agricultural practices used in the community	Dealer	8.3	8.3	8.3	8.3	8.3	12.5	4.1	4.1	4.1	8.3	4.1	12.5
		Trg. Dir.	8.3	8.3	8.3	12.5	20.8	16.7	4.1	8.3	4.1	8.3	16.7	16.7
		Ag. Ed. Res.	25.0	25.0	16.7	25.0	16.7	20.8	25.0	25.0	12.5	16.7	16.7	8.3
		Bus. Ed. Res.	20.8	20.8	12.5	20.8	16.7	12.5	12.5	12.5	0.0	16.7	16.7	8.3
		Total Jury	62.5*	58.3	45.8	66.7	62.5	62.5	45.8*	50.0*	20.8	50.0	54.1	45.8
126	10. Understands the influence of heredity on the rate of gain	Dealer	16.7	20.8	20.8	20.8	25.0	20.8	8.5	16.7	20.8	20.8	25.0	16.7
		Trg. Dir.	12.5	8.3	20.8	16.7	20.8	12.5	8.3	8.3	20.8	8.3	8.3	8.3
		Ag. Ed. Res.	20.8	20.8	20.8	20.8	16.7	12.5	12.5	16.7	16.7	12.5	8.3	4.1
		Bus. Ed. Res.	12.5	12.5	12.5	12.5	12.5	4.1	8.3	8.3	8.3	8.3	8.3	8.3
		Total Jury	62.5	62.5	75.0	70.8	75.0	50.0	37.5	50.0	66.7	50.0	50.0*	37.5
123	16. Ability to fit animals for show or sale	Dealer	20.8	16.7	16.7	16.7	20.8	20.8	12.5	12.5	16.7	12.5	20.8	12.5
		Trg. Dir.	12.5	8.3	16.7	8.3	16.7	12.5	12.5	8.3	8.3	4.1	8.3	8.3
		Ag. Ed. Res.	20.8	20.8	20.8	20.8	12.5	12.5	16.7	16.7	8.3	8.3	8.3	8.3
		Bus. Ed. Res.	16.7	20.8	16.7	16.7	16.7	12.5	4.1	20.8	12.5	12.5	16.7	8.3
		Total Jury	66.7	66.7	70.8	62.5	66.7	58.3	45.8	58.3	45.8	37.5	54.1	37.5
122	39. Understands the problems of feed dealers in the community	Dealers	0.0	0.0	4.1	0.0	16.7	20.8	0.0	0.0	4.1	0.0	16.7	12.5
		Trg. Dir.	0.0	4.1	8.3	0.0	20.8	16.7	0.0	4.1	8.3	0.0	20.8	16.7
		Ag. Ed. Res.	12.5	16.7	20.8	20.8	25.0	16.7	8.3	12.5	8.3	12.5	25.0	8.3
		Bus. Ed. Res.	0.0	8.3	8.3	12.5	20.8	12.5	0.0	4.1	8.3	12.5	16.7	12.5
		Total Jury	12.5*	29.1	41.7	33.3**	83.3	66.7	8.3	20.8	29.1	25.0*	79.1	50.0

*x^2 score significant at the .05 level.

**x^2 score significant at the .01 level.

TABLE XVIII--Continued

Competency Frequency	COMPETENCY		POSSIBLE						APPROPRIATE					
			High School	Post High School	4 year College	Adult	Dealer	On Job	High School	Post High School	4 year College	Adult	Dealer	On Job
		Sub Jury	%	%	%	%	%	%	%	%	%	%	%	%
118	19. Knowledge of marketing channels for livestock (poultry) and their products	Dealers	8.3	12.5	12.5	12.5	12.5	20.8	4.1	8.3	12.5	12.5	12.5	12.5
		Trg. Dir.	12.5	16.7	16.7	16.7	20.8	20.8	8.3	12.5	16.7	12.5	20.8	8.3
		Ag. Ed. Res.	25.0	25.0	25.0	25.0	16.7	12.5	20.8	25.0	20.8	16.7	8.3	4.1
		Bus. Ed. Res.	20.8	16.7	16.7	20.8	20.8	16.7	8.3	12.5	12.5	16.7	8.3	8.3
		Total Jury	62.5	70.8	70.8	75.0	70.8	70.8	41.7	58.3	62.5	58.3	45.8	37.5
109	8. Ability to determine the grade of the animals (birds)	Dealers	12.5	12.5	20.8	12.5	16.7	16.7	8.3	8.3	16.7	12.5	12.5	16.7
		Trg. Dir.	12.5	12.5	12.5	12.5	12.5	8.3	8.3	8.3	12.5	12.5	8.3	8.3
		Ag. Ed. Res.	20.8	20.8	20.8	20.8	12.5	12.5	20.8	16.7	12.5	4.1	4.1	4.1
		Bus. Ed. Res.	20.8	20.8	20.8	16.7	16.7	20.8	8.3	20.8	16.7	12.5	12.5	12.5
		Total Jury	66.7	66.7	70.8	62.5	58.3	58.3	45.8	54.1	58.3	41.7	37.5	41.7
107	23. Knowledge of the methods used in collecting bills	Dealer	0.0	4.1	4.1	0.0	16.7	16.7	0.0	4.1	0.0	0.0	16.7	12.5
		Trg. Dir.	0.0	8.3	12.5	4.1	25.0	20.8	0.0	8.3	12.5	4.1	25.0	12.5
		Ag. Ed. Res.	25.0	25.0	25.0	25.0	25.0	16.7	12.5	8.3	8.3	8.3	25.0	16.7
		Bus. Ed. Res.	20.8	25.0	20.8	25.0	25.0	20.8	12.5	20.8	16.7	20.8	25.0	16.7
		Total Jury	45.8**	62.5**	62.5*	54.1**	91.7	75.0	25.0*	41.7	37.5	33.3*	91.7	58.3
89	38. Understands the criteria for appraising prospective feed dealers	Dealers	0.0	0.0	4.1	0.0	20.8	16.7	0.0	0.0	0.0	0.0	20.8	16.7
		Trg. Dir.	4.1	8.3	8.3	4.1	20.8	16.7	0.0	4.1	4.1	0.0	20.8	16.7
		Ag. Ed. Res.	8.3	16.7	20.8	20.8	25.0	8.3	4.1	12.5	8.3	12.5	20.8	4.1
		Bus. Ed. Res.	4.1	12.5	8.3	12.5	12.5	8.3	0.0	12.5	8.3	8.3	12.5	8.3
		Total Jury	16.7	37.5	41.7	37.5*	79.1	50.0	4.1	29.1	20.8	20.8	75.0	45.8

*X^2 score significant at the .05 level.

**X^2 score significant at the .01 level.

APPENDIX E

TABLE XIX

CLASSIFICATION INTO SUB-GROUPS BY THE RESPONSES OF INDIVIDUAL MEMBERS OF THE JURY OF TWENTY-FOUR EXPERTS FOR THE IMPORTANCE OF FORTY COMPETENCIES FOR THE PERFORMANCE OF NINE ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY, AND THE "POSSIBLE" AND "APPROPRIATE" LOCI AT WHICH THE COMPETENCIES COULD BE TAUGHT

Ind. Jury Member	Sub-group	Competencies for Activities Grouping	"Possible" Loci Grouping	"Appropriate Loci Grouping	
1	Dealer	A	3	II	
2	Dealer	A	2	II	(4)
3	Dealer	A	2	III	(4)
4	Dealer	A	2	I	
5	Dealer	A	1	I	(1)
6	Dealer	B	3	II	
7	Trg.Dir.	A	1	III	
8	Trg.Dir.	C	2	III	(5)
9	Trg.Dir.	C	2	III	(5)
10	Trg.Dir.	A	2	II	(3)
11	Trg.Dir.	A	2	I	
12	Trg.Dir.	C	3	III	
13	Ag.Ed.Res.	A	2	I	
14	Ag.Ed.Res.	C	2	II	(3)
15	Ag.Ed.Res.	C	1	IV	(2)
16	Ag.Ed.Res.	A	1	I	(1)
17	Ag.Ed.Res.	A	2	II	(3)
18	Ag.Ed.Res.	B	2	II	
19	Bus.Ed.Res.	A	1	III	
20	Bus.Ed.Res.	B	1	II	
21	Bus.Ed.Res.	A	1	IV	(2)
22	Bus.Ed.Res.	C	3	IV	
23	Bus.Ed.Res.	B	1	IV	
24	Bus.Ed.Res.	A	2	III	(4)

(1) Number 5 and 16 were in the same sub-group for each of the three McQuitty Hierarchial Classification Analyses

(2) Numbers 15 and 21 were in the same sub-group for each of the three McQuitty Hierarchial Classification Analyses

(3) Numbers 10, 14, and 17 were in the same sub-group for each of the three McQuitty Hierarchial Classification Analyses

(4) Numbers 2, 3, and 24 were in the same sub-group for each of the three McQuitty Hierarchial Classification Analyses

(5) Numbers 8 and 9 were in the same sub-group for each of the three McQuitty Hierarchial Classification Analyses.

TABLE XX

CLUSTERS OF RESPONSES BY SUB-GROUP TO THE IMPORTANCE OF FORTY COMPETENCIES FOR THE PERFORMANCE OF NINE ESSENTIAL ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY AS RATED BY A JURY OF TWENTY-FOUR EXPERTS*

Competency Frequency	COMPETENCY	ACTIVITIES								
		Assists producers 1	Assists dealers 2	Sells direct 3	Assists producers 4	*Reports results 5	Sells over counter 6	Solicits dealers 7	Recognizes abnormal procedures 8	Assists dealers 9
201	25. Product information	ABC	A C	B C	B	A B	A C	A C		C
185	29. Personal sales traits	ABC	A C	ABC			A C	A		
185	30. Customer's needs	A B		ABC	A		A C	A		A
184	5. Community practices	B	A	B			A		A	
182	31. Classify customer types	B		B C			C	C		
179	32. Ability to close sale	A B	A	ABC	A		A C	A		
178	36. Understands research	A C		A	A	C	A		A	A
177	4. Ability to determine rations	ABC			A B	A	C		A C	A
174	2. Understands composition of feeds	ABC					C			C
171	26. Understands company's other products			C			A C	A C		C
168	3. Understands feed preparation					A	A	A $\boxed{B}$		
165	15. Understands livestock pest control	A	A	A B	A		A		A C	$\boxed{B}$
165	20. Ability to determine profit	A B		B	A				$\boxed{C}$	
164	24. Understands company's policies	B		B C		A B	C	C		C
162	9. Determine records to keep	A				C		X		C
159	14. Ability to identify diseases	A		A			A	$\boxed{B}$	A C	B
158	27. Knowledge of competitors products			C			C			
156	33. Knowledge feed mill operation			C			A			C
152	17. Ability to evaluate resources						$\boxed{C}$	X		
152	22. Determine repayment ability	B C		B	C	B				
150	1. Knowledge of animal make-up	A C					B	X	A C	
149	35. Write up feeding results		A		C	A$\boxed{B}$C	$\boxed{B}$			
148	13. Understands livestock sanitation	A B		B	A		$\boxed{C}$	X		X
148	21. Determine customer credit	B		B	C	B		X	X	
148	40. Understands how to increase sales		C					A	X	A C
147	37. Ability to give group information	C	C	C			$\boxed{B}$			A C
145	7. Understands animal selection				C			X	C	
145	18. Knowledge of livestock price				$\boxed{C}$				$\boxed{C}$	

TABLE XX--Continued

Competency Frequency	COMPETENCY	ACTIVITIES								
		Assists producers	Assists dealers	Sells direct	Assists p.oducers	Reports results	Sells over counter	Solicits dealers	Recognizes abnormal procedures	Assists dealers
		1	2	3	4	5	6	7	8	9
145	34. Knowledge of delivery procedure			C				C	X	C
144	12. Understands influence of equipment	A			A	$\boxed{C}$	$\boxed{C}$	X		X
144	11. Understands influence of housing	A			A	$\boxed{C}$	$\boxed{C}$	X		X
136	28. Ability to fill out invoice			B C	X	X	C		X	
130	6. Knowledge agricultural practices							X		
126	10. Understands heredity influence		X				$\boxed{B}$	X		$\boxed{B}$
123	16. Ability to fit animals				X	X	X	X	X	$\boxed{B}$
122	39. Understands feed dealers problems	X			X	X	X	C	X	
118	19. Knowledge of marketing channels		X	C			$\boxed{C}$	X	X	$\boxed{C}$
109	8. Determine grade of animals		B				X	X		$\boxed{B}$
107	23. Knowledge of collecting bills	X		C				C	X	X
89	38. Appraising prospective dealers	X		X	X	X	X	C	X	

A, B, C, - Agree
B or C - Disagree
X - Not rated as important by fifty percent or more of the twenty-four member jury of experts.

*Using the McQuitty Hierarchial Classification System of Individual "members" and "reciprocal pairs."

TABLE XXI

CLUSTERS OF RESPONSES BY SUB-GROUP TO THE IMPORTANCE OF SIX "POSSIBLE" LOCI AT WHICH FORTY COMPETENCIES COULD BE TAUGHT FOR THE PERFORMANCE OF NINE ACTIVITIES BY SALES PERSONNEL IN THE FEED INDUSTRY AS RATED BY A JURY OF TWENTY-FOUR EXPERTS*

Competency Frequency	Competency	POSSIBLE LOCI					
		High School	Post High School	4-year College	Adult	Dealer	On Job
201	25. Understands company's products	X	X	X	X	2 3	
185	29. Personal sales traits	1 $\boxed{3}$	1 $\boxed{3}$		1	1 2 3	
185	30. Study customer's needs	$\boxed{3}$			1	1 2 3	2
184	5. Understands community practices		$\boxed{3}$	X			
182	31. Classify customer types	$\boxed{3}$	$\boxed{3}$			1	2
179	32. Ability to close sale	$\boxed{3}$				1 3	
178	36. Understands research	X	1 $\boxed{3}$	1	3	1 2 3	
177	4. Ability to determine rations			3 2		2	
174	2. Understands feed compositions	2	2	3 2 1	2 1		
171	26. Company's other products	X	X	X	X		
168	3. Understands feed preparation	$\boxed{3}$	$\boxed{3}$		$\boxed{3}$ 1	2 1	$\boxed{3}$
165	15. Livestock pest control		1	2	2	2 3	
165	20. Ability to determine profit	1	1		1		2
164	24. Understands company's policies	X	X	X	X	2	
162	9. Determine records to keep	1	1	3	1	2	
159	14. Ability to determine diseases		1	2	2	2	
158	27. Competitor's product	X	X	X	X		
156	33. Feed mill operation	1 $\boxed{3}$	1 $\boxed{3}$	$\boxed{3}$	1 $\boxed{3}$	1 2	1
152	17. Ability to evaluate resources	3	3		3 1		3
152	22. Determine repayment ability					2	2
150	1. Knowledge of animal make-up			3 1	2	2	
149	35. Write up feeding results	X	$\boxed{3}$		X	1 3	2
148	13. Understands livestock sanitation	2 $\boxed{3}$	1 2	2	2 $\boxed{3}$	2	
148	21. Determine customer credit		1		1		2
148	40. Understands how to increase sales	X			$\boxed{3}$	1 2	
147	37. Ability to give group information	X				1 2	
145	7. Understands animal selection						$\boxed{3}$
145	18. Knowledge of livestock prices	$\boxed{3}$	$\boxed{3}$	$\boxed{3}$	$\boxed{3}$	$\boxed{3}$	
145	34. Knowledge of delivery procedure	1 $\boxed{3}$	1 $\boxed{3}$	X	X	1 2	1
144	12. Understands equipment influence	2 $\boxed{3}$	2 $\boxed{3}$	2	2 $\boxed{3}$	2	$\boxed{3}$
144	11. Understands housing influence	2 $\boxed{3}$	2 $\boxed{3}$	2	2 $\boxed{3}$	2	$\boxed{3}$
136	28. Ability to fill out invoices	X	X	X	X	1 3	1 3

TABLE XXI--Continued

Competency Frequency	Competency	POSSIBLE LOCI					
		High School	Post High School	4-year College	Adult	Dealer	On Job
130	6. Knowledge of agricultural practice		$\boxed{3}$	X	1		
126	10. Understands heredity influence			2		2	
123	16. Ability to fit animals	$\boxed{3}$	$\boxed{3}$		$\boxed{3}$		X
122	39. Understands feed dealers	X	X	X	X		
118	19. Knowledge of marketing channels	$\boxed{3}$	$\boxed{3}$	$\boxed{3}$	$\boxed{3}$ 1	$\boxed{3}$	2
109	8. Determine grade of animals		3		3		6
107	23. Knowledge of collecting bills					2	2
89	38. Appraising prospective dealers	X	X	X	X		

1, 2, 3 - Agree
2 , 3 - Disagree
X - Not rated as important by fifty percent or more of the twenty-four member jury of experts.

*Using the McQuitty Hierarchial Classification System of Individual "members" and "reciprocal pairs."

TABLE XXII

CLUSTERS OF RESPONSES BY SUB-GROUP TO THE IMPORTANCE OF SIX "APPROPRIATE" LOCI AT WHICH FORTY COMPETENCIES COULD BE TAUGHT FOR THE PERFORMANCE OF NINE ACTIVITIES BY SALES PERSONNEL IN THE FIELD INDUSTRY AS RATED BY A JURY OF TWENTY-FOUR EXPERTS*

Competency Frequency	COMPETENCY	APPROPRIATE LOCI					
		High School	Post High School	4-year College	Adult	Dealer	On Job
201	25. Understands company's products	X	X	X	X	1 2 3	
185	29. Personal sales traits		1			1 3 4	1 4
185	30. Study customer's needs	X	1	$\boxed{2}$		1 3	1 3
184	5. Understands community practices	X	X	X	1		
182	31. Classify customer types	X	1	$\boxed{2}$	X	1 3	1 3
179	32. Ability to close sale	X	1			1 3	1 3
178	36. Understands research	X	X	1 4		1 3	
177	4. Ability to determine rations	1	1	1 4	1	1 3	$\boxed{4}$
174	2. Understands feed compositions		4	1	1 4	$\boxed{4}$	4
171	26. Company's other products	X	X	X	X	1	
168	3. Understands feed preparation	X				1 3	$\boxed{2}$ 3 4
165	15. Livestock pest control	1	1	1 3	1		
165	20. Ability to determine profit	X	1 4	1	1		
164	24. Understands company's policies	X	X	X	X	1 3	4
162	9. Determine records to keep	1	1 4	1	1	3	3
159	14. Ability to determine diseases		1 4	3 4			X
158	27. Competitor's product	X	X	X	X		4
156	33. Feed mill operation	X	X	X	X	1	3
152	17. Ability to evaluate resources	1	1	1 $\boxed{4}$	1	$\boxed{4}$	2 4
152	22. Determine repayment ability	X	1 4	1 4	1	1	1
150	1. Knowledge of animal make-up		4	1 4		$\boxed{4}$	X
149	35. Write up feeding results	X	X	X	X	3 4	3
148	13. Understand livestock sanitation	1	1 4	1 4	1 3	4	X
148	21. Determine customer credit	X	1 4	1 4	1		
148	40. Understand how to increase sales	X	X	2 4	X	3	
147	37. Ability to give group information	X	1 $\boxed{3}$ 4	1 4	X	1 3	1
145	7. Understands animal selection	1 $\boxed{3}$	1	1	1	X	X
145	18. Knowledge of livestock prices	X	1	1	1	X	X
145	34. Knowledge of delivery procedure	X	X	X	X	1	3
144	12. Understands equipment influence	1 $\boxed{4}$	1	1	1 3	3 $\boxed{4}$	X
144	11. Understands housing influence	1	1	1	1	3 $\boxed{4}$	X
136	28. Ability to fill out invoices	X	X	X	X	1 $\boxed{2}$ 4	4

TABLE XXII--Continued

Competency Frequency	COMPETENCY	APPROPRIATE LOCI					
		High School	Post High School	4-year College	Adult	Dealer	On Job
130	6. Knowledge agricultural practices	X		X	1		
126	10. Understands heredity influence	X	1	1	1 $\boxed{4}$	$\boxed{4}$	X
123	16. Ability to fit animals	X		X	X		X
122	39. Understands feed dealers	X	X	X	X	X	
118	19. Knowledge of marketing channels	X	1	1	1	X	X
109	8. Determine grade of animals	X	1	1	X	X	X
107	23. Knowledge of collecting bills	X		X	X	3 4	
107	38. Appraising prospective dealers	X	X	X	X		

1, 2, 3, 4 - Agree
2, 3, 4 - Disagree
X - Not rated as important by fifty percent or more of the twenty-four member jury of experts.

*Using the McQuitty Hierarchial Classification System of Individual "members" and "reciprocal pairs."

APPENDIX F

TWENTY-EIGHT ACTIVITIES FOR THE PERFORMANCE OF THE SALES FUNCTION OF THE FEED INDUSTRY*

		MEAN
1.	Assists farmers in planning feeding programs and trouble shoots his feeding problems.	3.91
2.	Assists local dealers in promoting use of specific feeds by local producers.	3.58
3.	Sells direct to producer.	3.50
4.	Assists producer to see through his own problems by reviewing with him his own situation.	3.50
5.	Follows up on results obtained by customers and reports these to management.	3.50
6.	Sells directly to customer across the counter in an informative manner without misrepresentation.	3.50
7.	Solicits local dealers to sell company's products.	3.50
8.	Recognizes abnormal and detrimental practices and animal health conditions.	3.50
9.	Assists local dealers in promotional campaigns and feed and grain clinics for livestock feeders.	3.50
10.	Develops reputable company rapport with dealer through honest representation of products.	3.41
11.	Helps farmers to arrange credit and accepts responsibility for the collection of accounts receivable.	3.33
12.	Sells directly to farmer on the farm.	3.25
13.	Evaluates and disseminates other tried and tested programs, techniques and efficiency ideas.	3.16

		MEAN
14.	Arranges mode of delivery and of handling of feed on the farm of the producer.	2.91
15.	Keeps records of sales, inventories, credit accounts, deliveries and other pertinent records.	2.91
16.	Keeps personal records, time, travel, expenses, and data required in the personnel office.	2.91
17.	Innovates and designs promotional sales programs.	2.91
18.	Assists local dealers in maintaining adequate inventories for regular business and seasonal fluctuation.	2.83
19.	Reviews credit ratings of local dealers and feed customers and recommends credit extension to them.	2.75
20.	Provides local dealers with market trends and outlook information concerning the industry.	2.75
21.	Promotes rewards for outstanding production by producers.	2.66
22.	Understands acceptable techniques in entertaining dealer customers.	2.50
23.	Develops complete accounting systems for producers and analyses of results.	2.50
24.	Keeps progress charts on national and local trends of feed industry, outlets for local sales and other evaluation data.	2.41
25.	Keeps a file of sales techniques on each customer.	2.33
26.	Knows how to do many farm skills which he can perform and thereby impresses the farmer he wants to sell.	2.00
27.	Digests developing technology and explains agricultural policy information.	1.83
28.	Increases sales of company's products through pressure salesmanship.	0.66

*Raymond Clark, "Vocational Competencies Needed by Workers in Non-Farm Agricultural Occupations," Michigan State University, June 1964. (Mimeographed.)